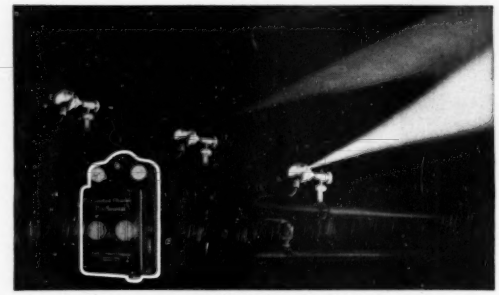
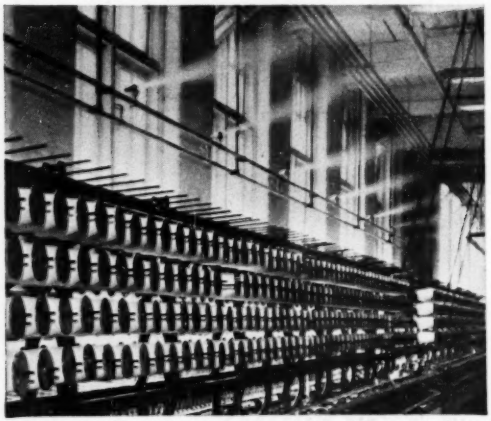
Textile
COTTON
Textile Industries
Industries

Gradumatic Humidification



Continuous and Graduated Humidification



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Controlled by the improved Certified Climate Psychrostat,

Gradumatic Humidifiers

operate continuously whenever moisture is needed. A mere breath from each atomizer (as little as 2 pounds per hour) *at any time*, or as much as 16 pounds of fog-like vapor from each atomizer, if needed, *some of the time.* But Gradumatic humidification *all the time.*

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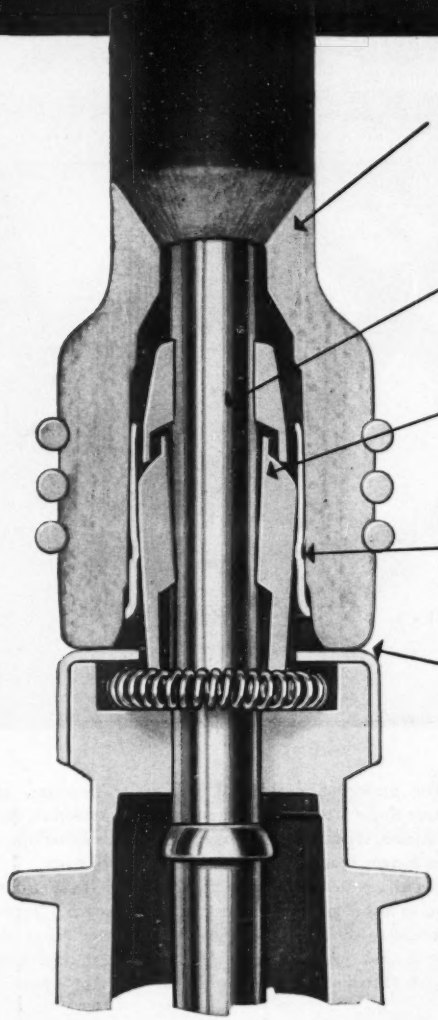
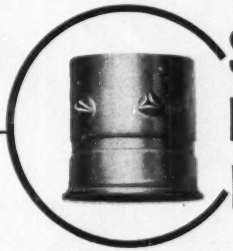
Volume 115 Number 7

Modern CLUTCH SPINDLES and BOBBINS with STIMPSON RIB BUSHING



Less Wear on Bobbin and Spindle

Prevents Bobbin "Riding Up"



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● Use a modern Draper clutch spindle to reduce your costs and step-up your quality production.

The Draper clutch spindle, used in conjunction with bobbins having the Stimpson Rib Bushing, will give you completely filled bobbins with uniform packages and properly placed feeler bunches. Investigate the Draper clutch spindle and see how you can cut your spinning and weaving costs.

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FOR THE TEXTILE INDUSTRY

ABC

Textile Industries

Volume 115, Number 7
July, 1951

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Save 3 ways! Investigate today! Write or mail coupon

You save belt costs because belts last longer, save production costs because machines keep running with fewer interruptions, save maintenance costs because they need less attention.

Patented grommet belts by B. F. Goodrich represent the only basic change since invention of the V belt. Belts last 20 to 50 per cent longer, depending on service. (The more severe the service, the greater the increase over ordinary belts.) Grommet belts have more rubber; they're more flexible, give better grip, less slip.

What is a grommet?

A grommet is like a giant cable except that it's *endless*—a cord loop built up by winding heavy cord on itself. There is no overlapping cord *section* as in all ordinary belts. Most belt failures occur in these sections where cords overlap!

All cords put to work

Each of the two grommets and every part of a grommet carry their share of the load. In ordinary belts under high tension the center cords "dish" because tension is greater near the driving faces. Dished cords are doing less work, not pulling their share. Grommet belts have no center cords, there is no dishing—therefore much more strength in proportion to cord volume—and less stretch. Grommet belts stretch, on an average, only about one-third as much as ordinary belts.

Better grip, less slip

Grommet belts have more rubber in relation to belt size. Without any stiff overlap, they're more flexible, grip pulleys better. Size for size, grommet belts give ⅓ more gripping power, pull heavier loads with a higher safety factor. Because there is less slip, there is also less surface wear.

Send for proof

Send the coupon for a set of reports telling users' experiences and showing actual installations where grommet belts outlasted all others. Some typical cases:

"... within a few days ordinary belts had stretched ... After six months of 24-hour-a-day service BFG grommet belts haven't stretched at all ..."

"Ordinary belts lasted only 5 or 6 weeks ... B. F. Goodrich grommet belts are in their sixth month of service ..."

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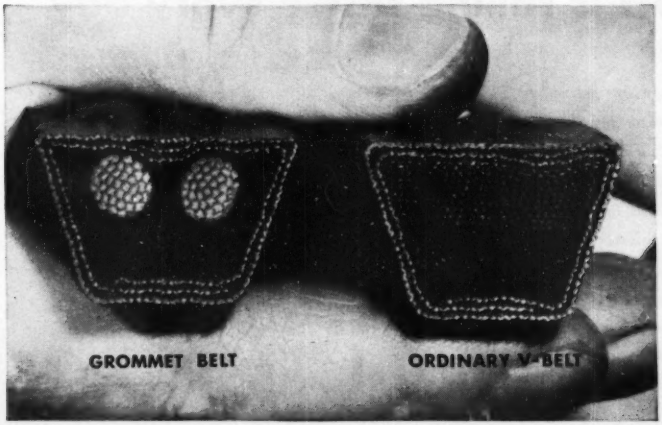
Write, send the coupon or see your B. F. Goodrich distributor. (He will show you his "X-ray" belt that shows the grommet construction clearly.)

Grommet Belts BY

B.F.Goodrich

FIRST IN RUBBER



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Dept. TI-7
Akron, Ohio

☐ Send set of reports telling users' experiences and showing actual installations proving that B. F Goodrich grommet belts outlast all others.

☐ Have distributor show me the "X-ray" belt that shows how B. F. Goodrich grommet belts are made.

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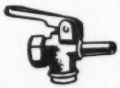
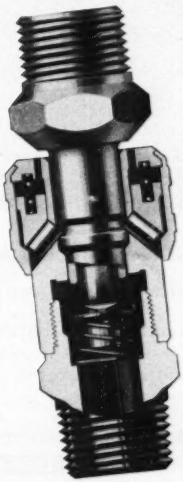
Hose Clamp Plug
No. 5-PP19

Hose Clamp
No. HC-2P19



Air Blow Gun
No. 25

10" Extension Nozzle
No. 26



● Lint and fly can be quickly removed from carding machines, spinning frames and looms through the use of Hansen quick-connective couplings and an Air Blow Gun.

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To disconnect, just push back sleeve on coupling socket—plug immediately releases and flow of air is shut off at station.

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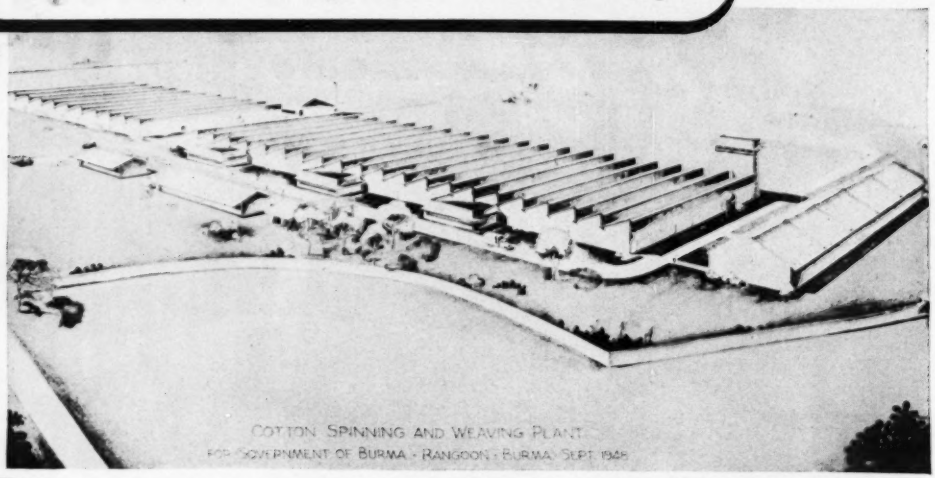

A Record of Service

as measured by....

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Locations:

Every state where cotton is processed into textiles; many mills in foreign countries.

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V-BELT CONSTRUCTION
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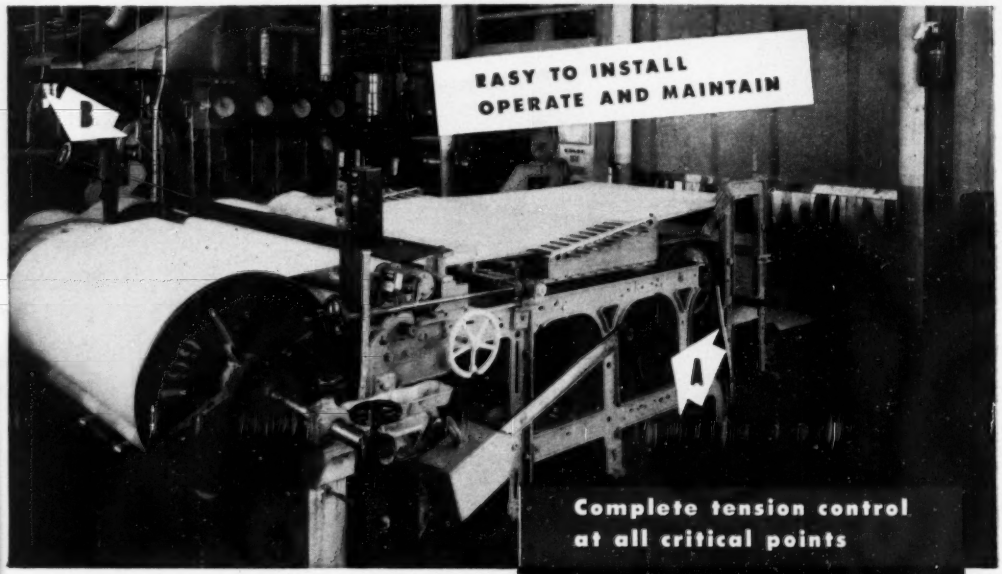
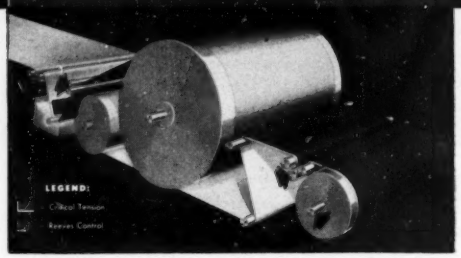


Arrow "A": The Complete Slasher Drive "nests" neatly beneath slasher head-end frame. *Arrow "B":* Handwheel—for setting Beam drive to maintain desired yard tension.



Add up all these quality-improving, money-saving advantages of REEVES "Servo-Control" Slasher Drive:

1 Finger-tip control from creep to run speeds by push button.

2 Smooth acceleration and deceleration through 15:1 speed range.

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4 Automatic, uniform tension regulation as beam builds.

5 Low initial cost; easily maintained by your mill mechanics; no complicated electrical hook-ups.

6 "Nests" under slasher head-end frame.

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REEVES PULLEY COMPANY • COLUMBUS, INDIANA
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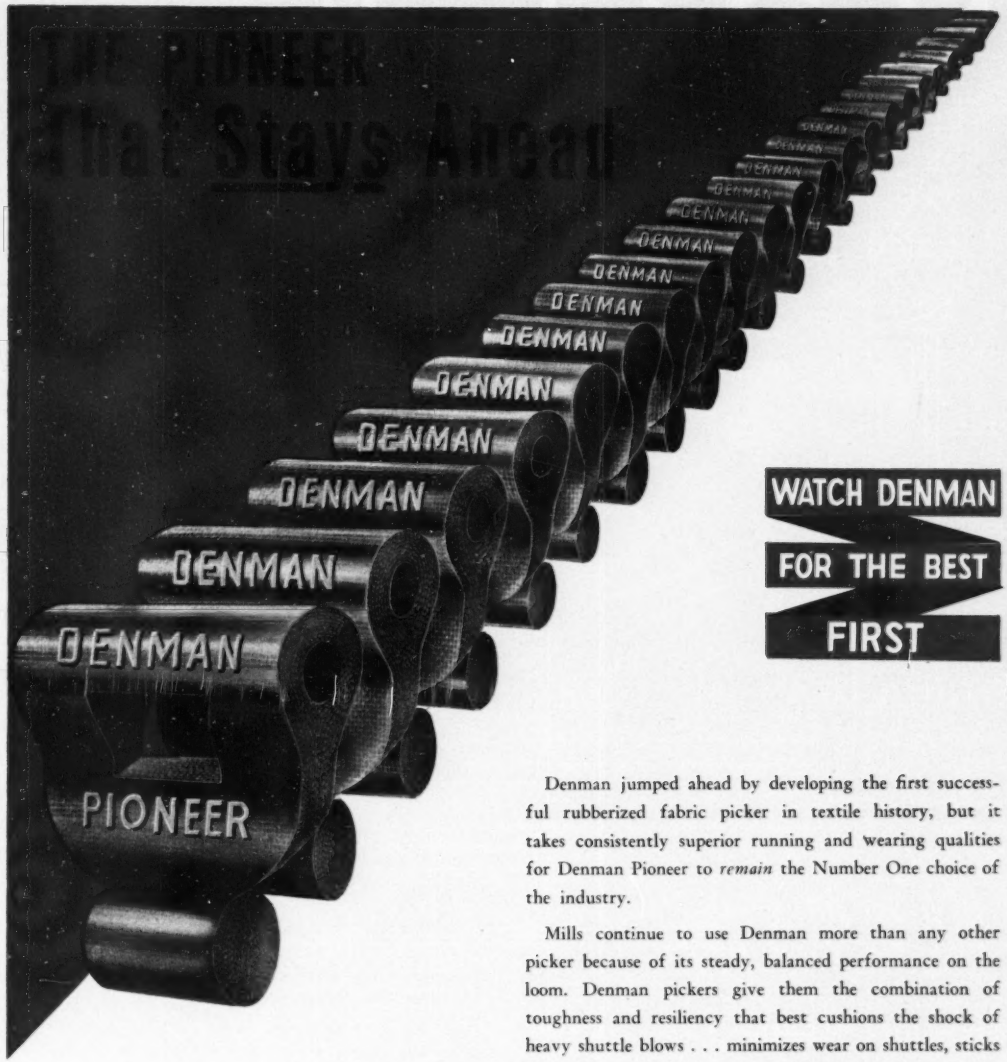

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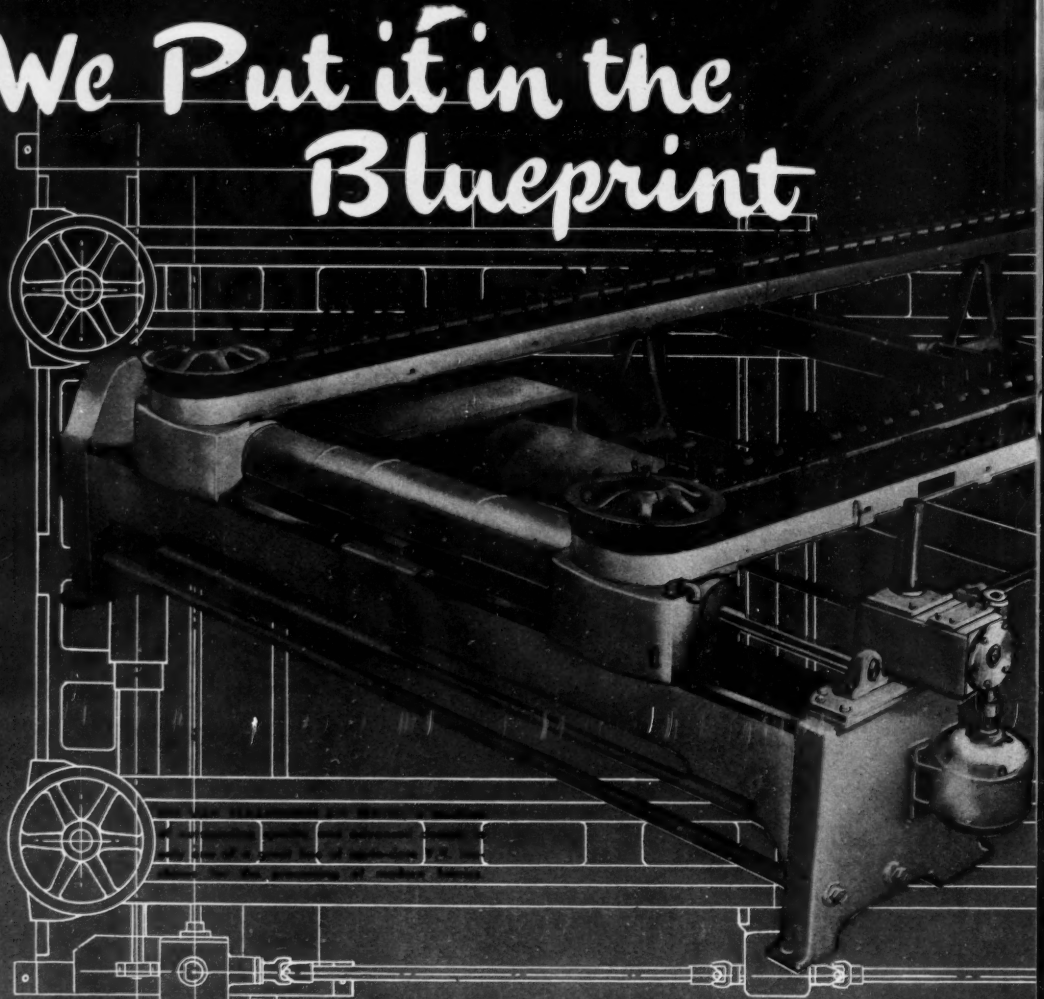

Before designing the V.V.611 Tenter our engineers studied with critical eyes all tenters then in use — including our own — and concluded:

that many tenters were too lightly built to resist the punishing vibration of thousands of pounds of whirling chain and the high temperatures frequently employed.

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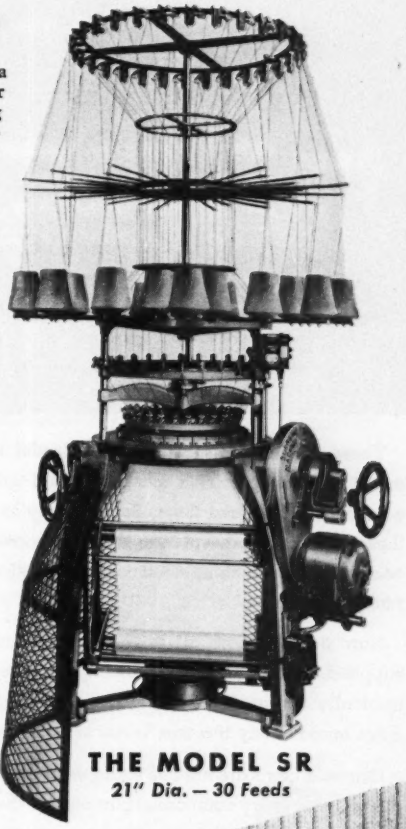

THE MODEL SR

21" Dia. — 30 Feeds

The Supreme Model SR is available in a complete range of sizes from 7" — 30 feeds to 30" — 84 feeds. For further details, write for free folder.

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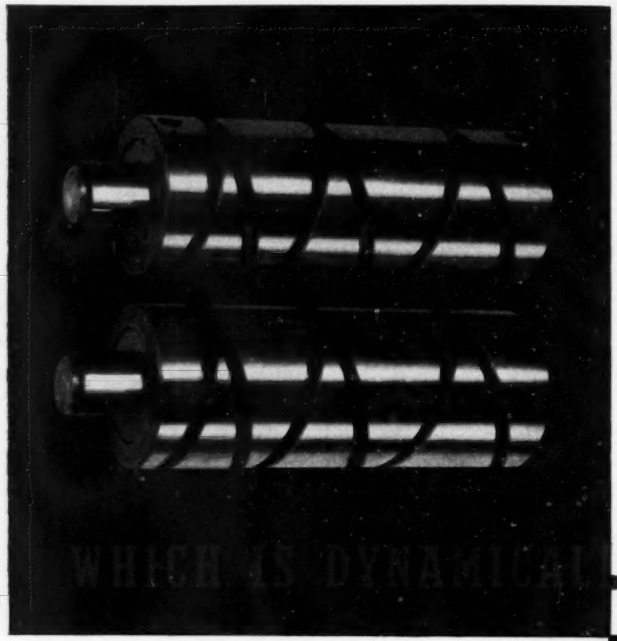
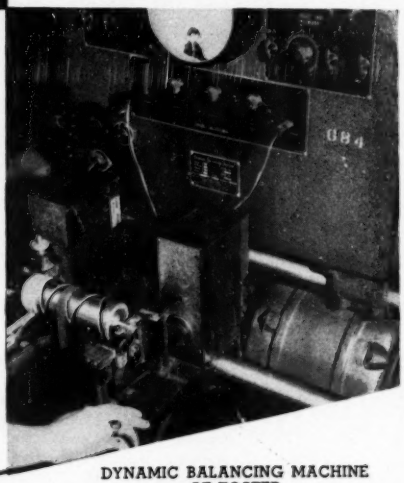


WHICH IS DYNAMICALLY BALANCED?

These two traverse cams for the Model 102 Winder are as much alike as precision machining and grinding on modern equipment can make them. But yet, they're not alike. One of these cams in its present form is sure to cause vibration . . . and enough chatter to compete successfully with a women's bridge party.

How do we know all this? It's information that's readily supplied by the dynamic balancing machine shown here. Electronically operated, this expensive and intricate machine indicates immediately if a cam is out of balance and where.

Our twin cams are but one example of the painstaking control of quality in every component part used in the building of Foster winders. You get built-in quality that pays off in high production at low operating cost and a minimum of maintenance.

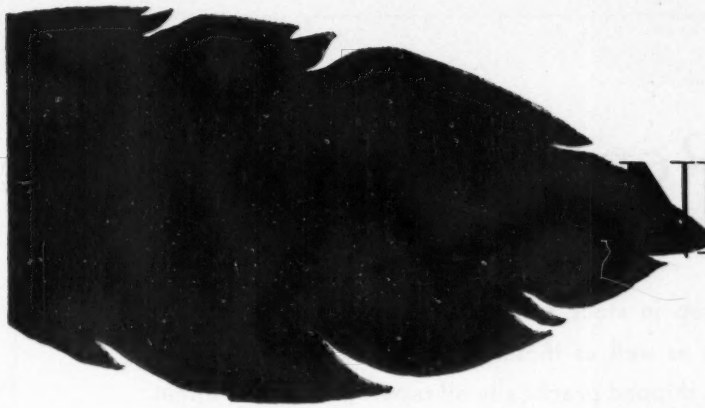


DYNAMIC BALANCING MACHINE AT FOSTER

FOSTER MACHINE CO.
Westfield, Mass.

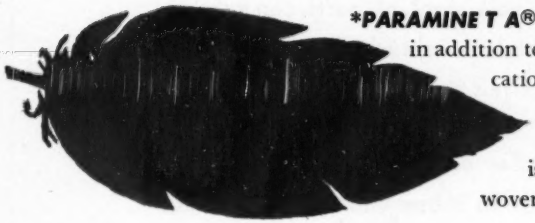
FOSTER F WINDERS

QUALITY WINDERS FOR ALL TYPES OF YARNS



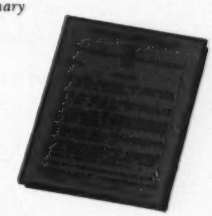
NE ta

for durable softness and added sales appeal...



***PARAMINE T A® produces a so… …rn** in addition to a pleasing surface finish. An efficient cationic product, it imparts a durable, long-lasting, full hand to cotton and rayon fabrics, woolen cloth and hosiery. It is highly effective on all styles of woven and knitted goods, including tricot and glove fabrics.

PARAMINE T A
is excellent for finishing cotton goods, plain dyed and printed in combination with gums, starches and similar products. On prints of very open design and blotch work, it gives a more even hand from selvedge to selvedge, and a smooth feel unobtainable with ordinary softeners. Write for details.



Arkansas Co., Inc.
184 Foundry St.
Newark, N. J.

Gentlemen:
Please send me, without obligation:

- ☐ Full details on PARAMINE T A
- ☐ Sample and application procedure
- ☐ Details of mill demonstration

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We keep in stock for prompt shipment all parts for Kitson pickers as well as those of our own manufacture. For years we have shipped practically all repair part orders within 24 hours from the receipt of the order.

Most of our customers keep few, if any, picker repair parts in their stock rooms, but depend on our stock for service. This will be particularly desirable during the war emergency, when one large, available stock of parts can take the place of hundreds of incomplete stocks which would tie up a great deal more critical materials than the one large stock.

Our hundreds of regular customers are familiar with our service and depend on it. To those who are not our customers, we extend a cordial invitation to come to us in any emergency in the picker room.

We manufacture a complete line of picking, opening and blending machinery, and also rebuild like new old machines which are in need of replacement.

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Greenwood WorkS South Carolina

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New colors . . . new combinations . . . mean new appeals — new sales. Exciting as they are, these color cycles must revolve around one fixed point — Quality — to be assured of success. This assurance is yours with Franklin Process Colors.
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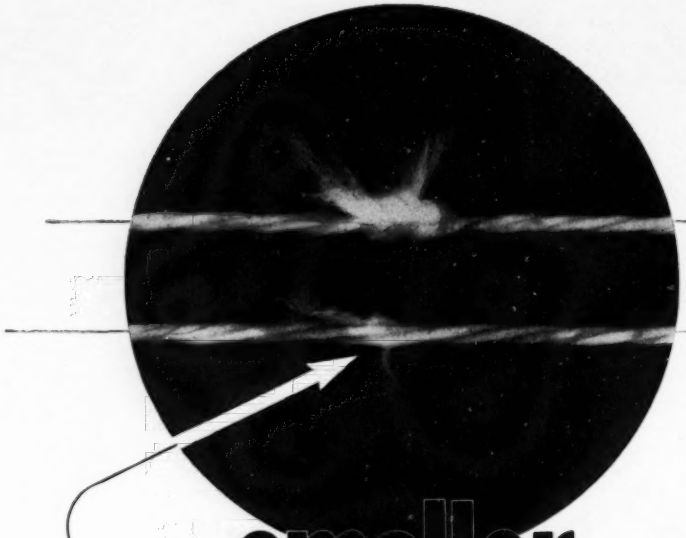
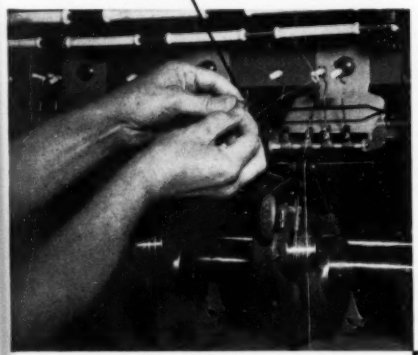


the smaller knot reduces loom stops—press offs



Knots are tied in the *single* end on the Model 10 Ring Twister—so the knots are smaller than when tied in the ply, and the tails are pulled in when twist is inserted.

These smaller knots reduce grease and oil pick-up, permit the yarn to pass more easily through reeds or knitting needles . . . and also reduce burling and mending costs.

On the Model 10, the feed roll and spindle stop promptly when an end breaks or a run-out occurs, permitting the operator to tie knots in the single end.

The single end stop motion also means that drop ply cannot get into the package nor can roller laps occur.

Only the Model 10 Ring Twister has an automatic stop motion for *each* end in the ply.

Plied yarn from the large twister packages produced on the Model 10 can be wound onto sales yarn packages with minimum piecing up . . . lowers winding costs. The large twister package can also be used as a direct supply to warping creels. Twister packages produced on the Model 10 Ring Twister can be used as a direct supply to jack spoolers by mills processing a variety of small orders.

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UNIVERSAL WINDING COMPANY

Atwood Division

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Winding and Twisting Machinery for Natural and Synthetic Yarns

Model 10 ***automatic stop motion for each end and ply***

23.1.13

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PERMANENT SOFTNESS

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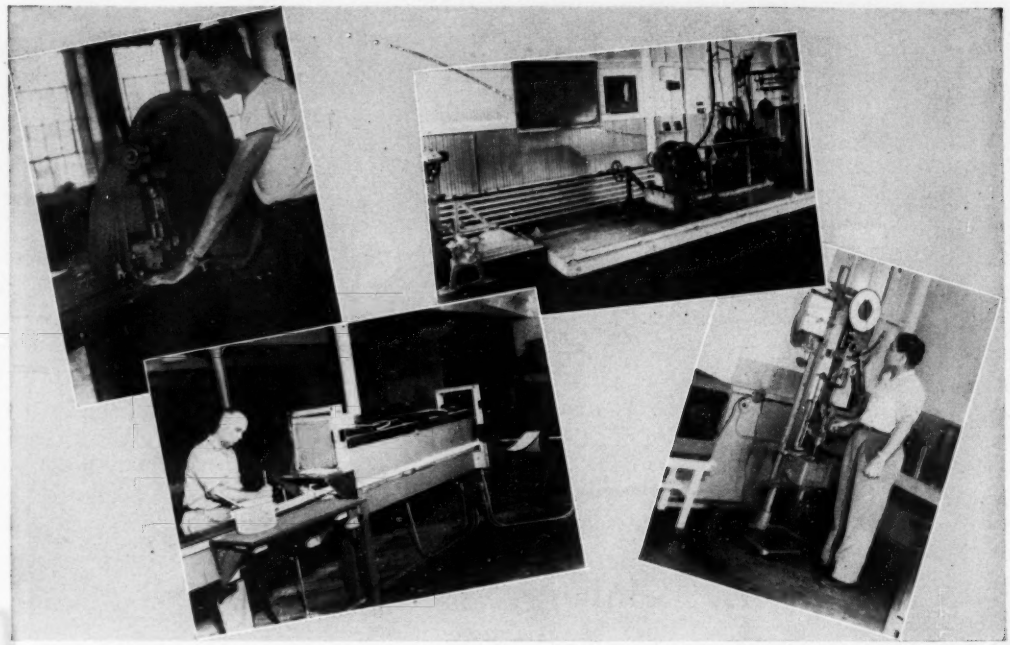

HERE'S WHY!

Here's why it's superior! Why "Southern" belting out-performs all others!

Southern Belting Company has consistently, throughout 61 years, kept abreast of developments and changes in the industry which it serves. By adapting its production methods to specific needs of the Textile Industry, "Southern" flat leather belting HAS ALWAYS BEEN MODERN!

Modern laboratory testing of leather samples insures quality of materials. Sample testing of finished belting insures quality of product. Stretch, not elasticity, removed. Separation of laps and plies eliminated by patented infra-red drying process.

"Southern" belting is *unconditionally guaranteed*, beyond requirements of industry, to meet the most rigid performance specifications in existence.

MODERN IN PRODUCTION! MODERN IN PERFORMANCE!

SOUTHERN Belting COMPANY

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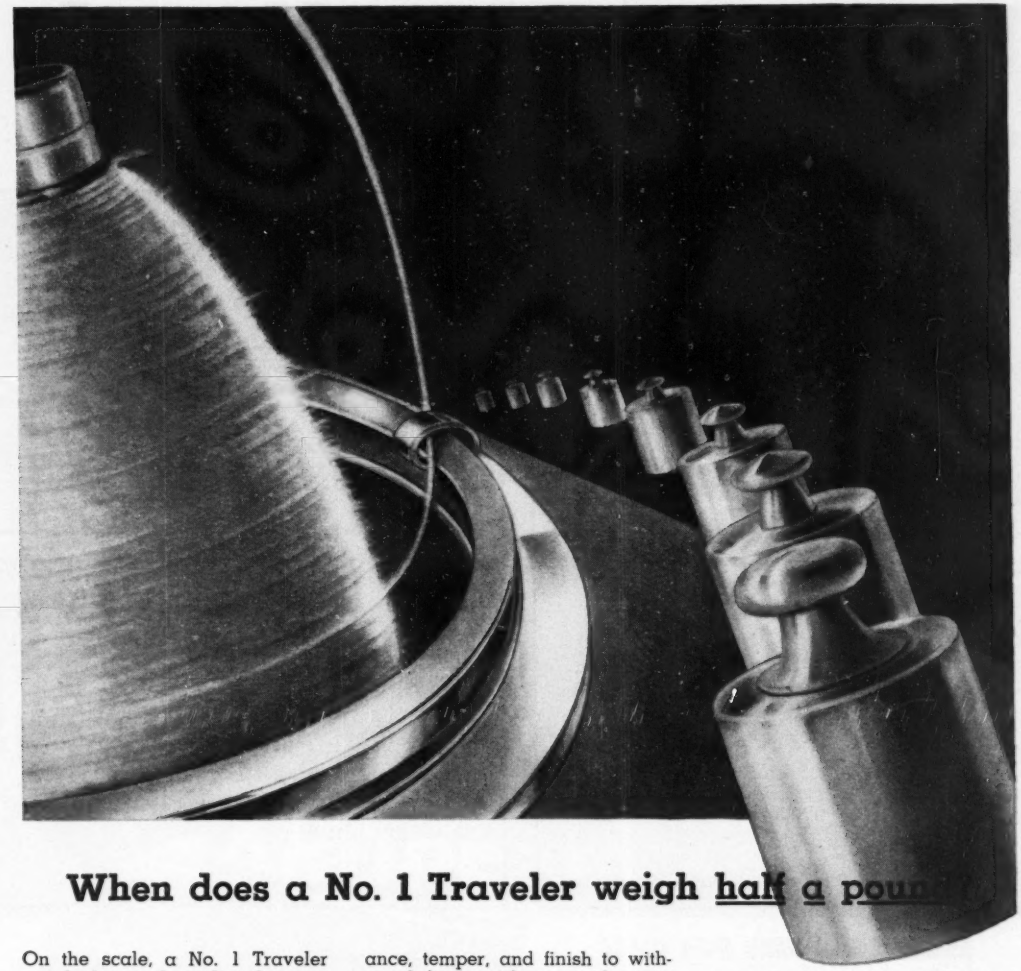
THE "SOUTHERN WAY" IS THE MODERN WAY



When does a No. 1 Traveler weigh half a pound?

On the scale, a No. 1 Traveler weighs 1 grain, but riding the rings at today's high speeds, it exerts an amazing "pull".

By applying simple dynamic principles to known factors, the centrifugal force can be calculated. For a No. 1 Traveler operating at 9600 r.p.m. spindle speed on a 2½" ring, this force is 3250 grains — almost half a pound!

Consider how this intensifies conditions of wear and friction. You'll see how important it is to choose travelers of the proper balance, temper, and finish to withstand this punishment without interrupting the smooth flow of yarn production.

Victor Travelers are made to serve longer — to deliver more pounds of yarn per traveler — under the toughest conditions. That's why they are first choice of economy-wise mill men for more than 10,000,000 of today's hard-working spindles.

Whether you are running conventional fibers, synthetics or blends, talk to a Victor Service Engineer about your traveler problem. Write, wire, or phone the nearest Victor office . . . for prompt service.

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Keep a Step ahead with

VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

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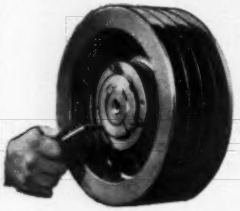
EVERYTHING You Need

MAGIC-GRIP SHEAVES



Fastest mounting sheave you can buy. Semi-steel sheave with interchangeable tapered split bushing. Aligns easily . . . cannot shake loose. Available as companion sheave for wide range belts. All sizes in stock.

VARI-PITCH STANDARD SHEAVES

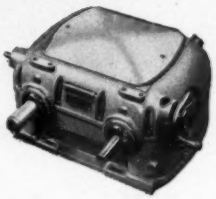
Speed range of 9% to 28% on drives of one to 300 horsepower, using A, B, C, D, or E, belts. Two to 10 grooves. These sheaves are available in motion control or stationary control types.

VARI-PITCH AUTOMATIC SHEAVES

Offers stepless speed control . . . one to 40 hp. Speed range up to 2 to 1. Simply move motor forward to increase speed, and move motor back to decrease. One hand does it while motor is running.

VARI-PITCH SPEED CHANGERS

You get smooth, accurate speed control at the turn of a hand wheel. You operate your machines at exactly the right speed for highest production. Stepless speed range: 3¾ to 1. Capacity: 1½ to 75 hp.



Take Your Choice of Low Cost, Dependable, Easy-to-Regulate *Texrope* Variable Speed Drives

YOU CAN BE confident of getting the right drive from the *Texrope* line. And you are helped in your choice by experienced men who are trained to give you specialized service for textile needs. They have the added skill that comes from having more industrial V-belt installations than any other manufacturer.

As you may know, multiple V-belt drives were originated by Allis-Chalmers to meet the requirements of the textile industry.

Today you can get every V-belt drive component from the *Texrope* line: constant speed drives; standard and wide range *Vari-Pitch* drives; speed changers; motor bases; and new or replacement, long lasting *Super*-7 V-belts. Allis-Chalmers, Milwaukee 1, Wis.
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Texrope, Vari-Pitch, Super-7, and Magic-Grip are Allis-Chalmers trademarks.

in V-Belt Drives!

VARI-PITCH WIDE RANGE SHEAVES

This textile mill enjoys speed flexibility at low cost. Speed range up to 2 to 1. Sheaves are built with one to four grooves for Q and R belts, fractional to 30 hp, in stationary and motion control types.

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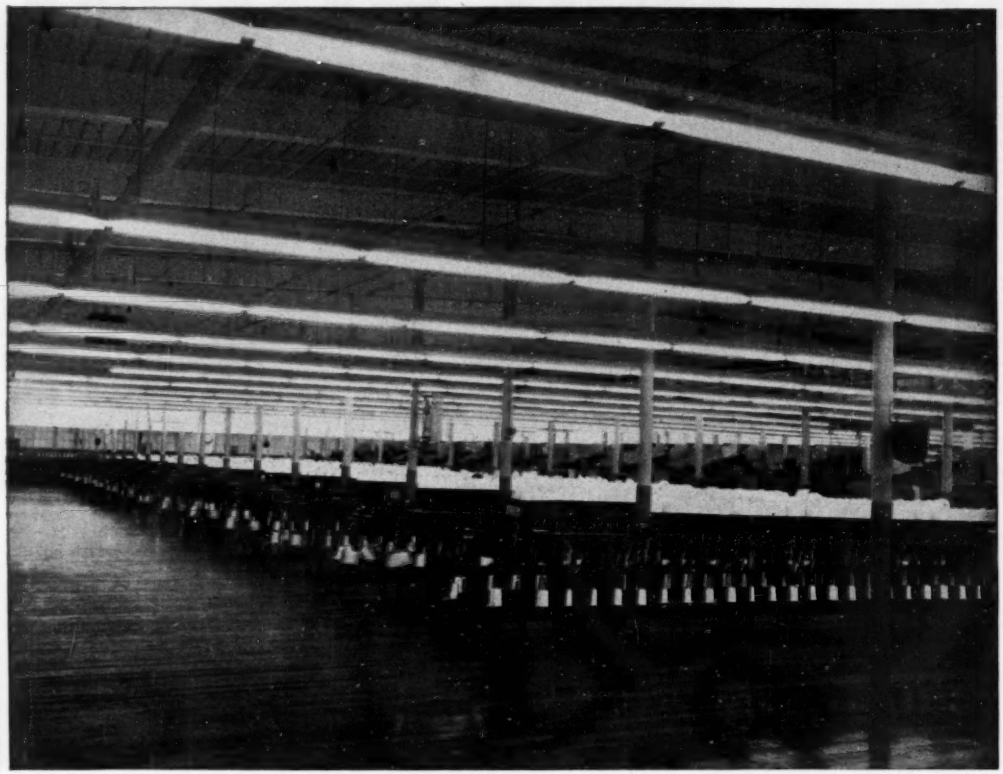
ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry

ABBOTT MACHINE COMPANY

INSTALLATION OF AUTOMATIC RAYON QUILLERS



Twelve Abbott Automatic Rayon Quillers with Pinboard Attachments are run by only *six* operators in the above mill installation. Such an efficient installation achieves lowest operating cost with maximum production per operator.

Empty loom bobbins are automatically loaded and filled. Full loom bobbins are automatically doffed onto pinboards, which permits one operator to handle up to 240 spindles.

Abbott Quillers offer the lowest investment cost in the automatic winding field.

One of our representatives will be glad to study your filling winding requirements and submit a proposal for your consideration.

ABBOTT MACHINE CO., INC.

FACTORY AND MAIN OFFICE:
WILTON, NEW HAMPSHIRE

SOUTHERN OFFICE: GREENVILLE, SOUTH CAROLINA

for washing naphthol prints and dyed pieces...add...

Nacconol*

AMERICA'S LEADING SYNTHETIC DETERGENT

use One to two pounds of NACCONOL per 100 gallons of water, plus three to four pounds of tetrasodium pyrophosphate, sodium sulfate or sodium chloride.

get **More rapid rinsing, cleaner shades, less crocking.**

The proof of the product is its performance. NACCONOL continues to lead in performance and production for the textile industry because it provides the balanced properties necessary for better wetting and washing from the kier to the finished cloth. For best results, order NACCONOL from our nearest office.

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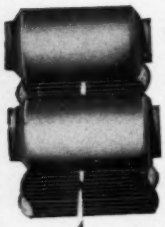
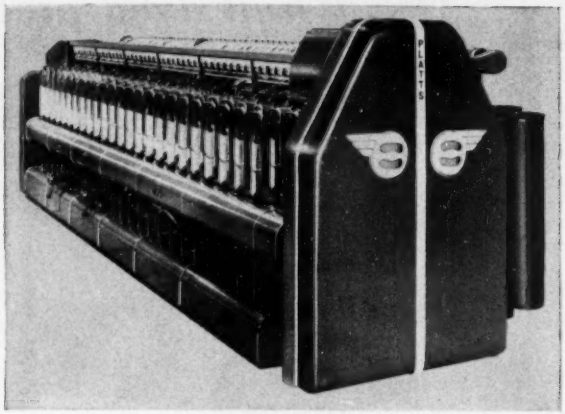
STRONGER ROVING
fewer ends down...

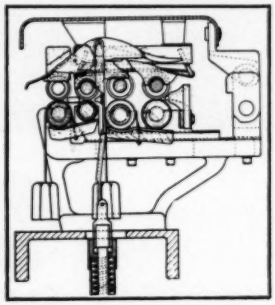


New Patented Hartley Flyer inserts more twist between the top of the flyer and the nip of the front roll. A stronger roving results with a higher production and a lighter work load.



PLATT'S M·S·2 HIGH DRAFT ROVING FRAME

At our Charlotte display rooms, you can see the M.S.2 Frame in operation and examine its well engineered features: The headstock is neat, compact and smooth in appearance, allowing easy access to the gearing and twist change-gears. The silent spindle and bobbin drive has a chain drive to the spindle and bobbin shafts with helical cut gears to each individual spindle and bobbin. Balance of bobbin rails, centralized lubrication, roller gearing, roller weighting, assisting rollers, measuring motion controls, guards and locking motions have all been well designed to be compact and accessible.



The TRIZONA (Trade-Mark) Drafting System employs a progressively controlled drafting which is the answer to the problem of fiber control in each critical drafting field. The patented guide units provide complete control of the fibers. The three drafting zones permit a wide range of drafts. We would be glad to send you a very interesting twelve page booklet with detail illustrations and comparative graphs of roving regularity.

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When these logs are pulled up the chute toward the chipper they are taking the first step toward becoming a Gaylord Shipping Container.

Throughout the entire complicated procedure of converting wood into paper — sharp-eyed technicians are constantly checking quality, making adjustments, testing to be absolutely sure that the end product is as strong and tough as it is possible to make it.

This quality control by experts is one reason why Gaylord lists many of the world's largest users of shipping containers among their satisfied customers.

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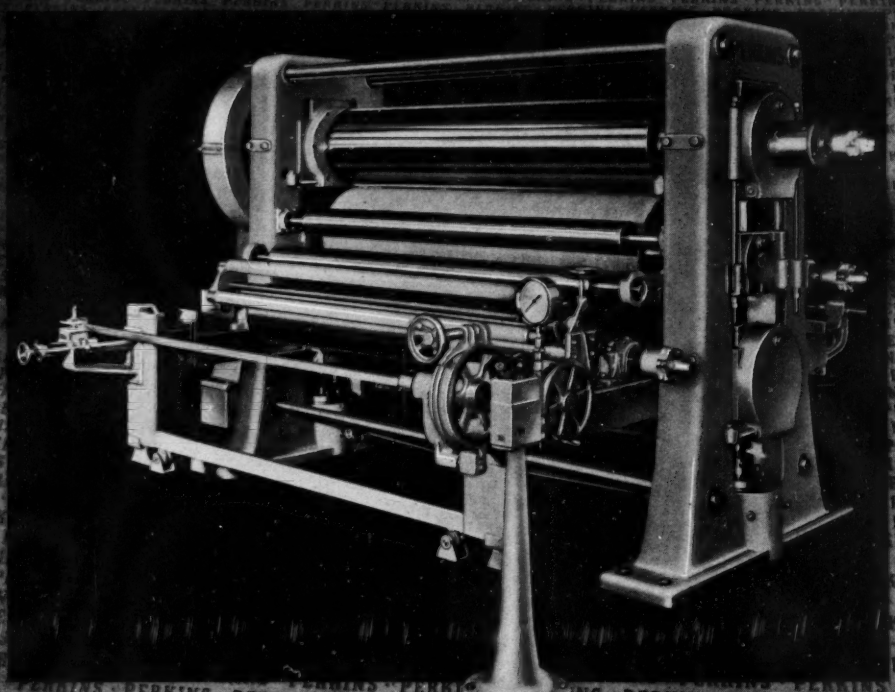


PERKINS POINTS WITH PRIDE

to this new three-roll 83" face 60-ton Hydraulic Rolling Calender. Top and bottom rolls, chilled iron. Intermediate roll, cotton. This calender is equipped with variable speed drive, pre-heating drum, cooling drum, three-bar tension group and a let-off which is adjustable laterally and horizontally.

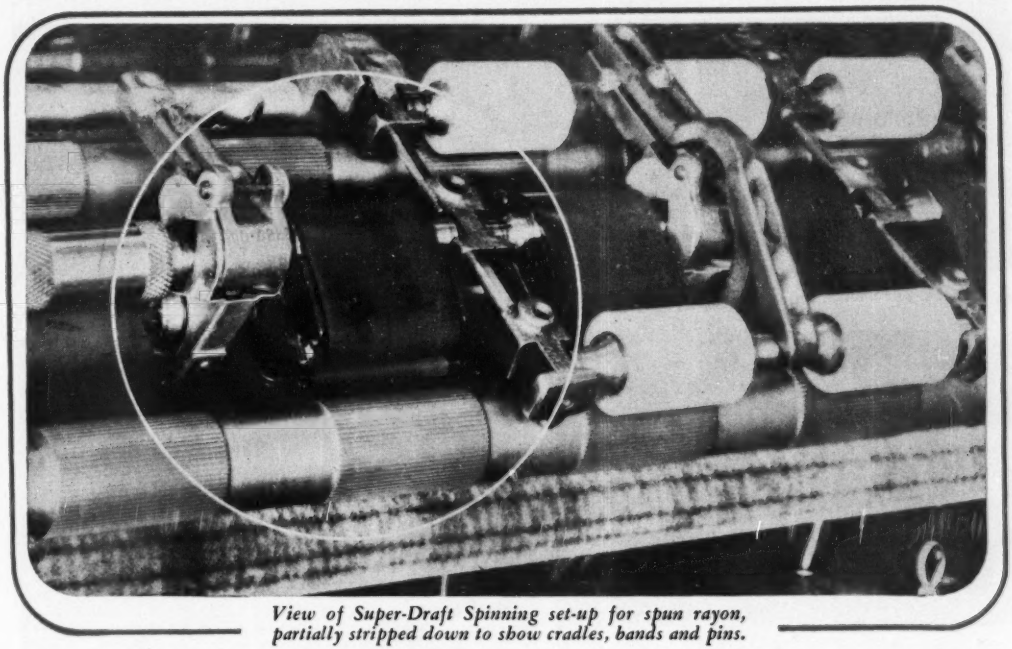
B. F. PERKINS & SON, Inc.

HOLYOKE, MASS., U.S.A.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

WHITIN Super-Draft *Spinning*

-another example of Progress through Research!



View of Super-Draft Spinning set-up for spun rayon, partially stripped down to show cradles, bands and pins.

Our latest development — Super-Draft Spinning — is but another example of progress through research at Whitin.

Introduced to the industry in 1950, it has proved to be very successful in actual mill operation. Conservative figures show that on cotton, drafts up to 40 for combed stock and up to 30 for carded stock have been easily reached. Drafts on spun rayon have been increased comparably.

The use of an improved cradle assures better fiber control, resulting in higher quality yarns of greater strength and evenness. Short fibers are controlled closer to the nip of the front rolls. In the final analysis, Whitin Super-Draft spinning can pay you big dividends in lower costs, reductions in amount of card room equipment required, less creeling in the spinning because of coarser roving required and larger packages used, and increased labor productivity.

In these critical days, production at top speed is vital. New developments which may increase your output should be looked into without delay. We invite your investigation of Whitin Super-Draft Spinning.

Super-Draft Spinning is standard equipment on new spinning frames. It is also available as a full changeover or as a partial changeover on present long draft spinning installations of all types.

Whitin MACHINE WORKS

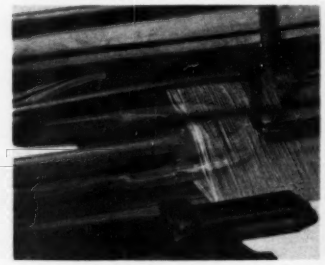
WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANSBURG, S. C. • DEXTER, ME.

Here's Exactly what you can See

on any Loom

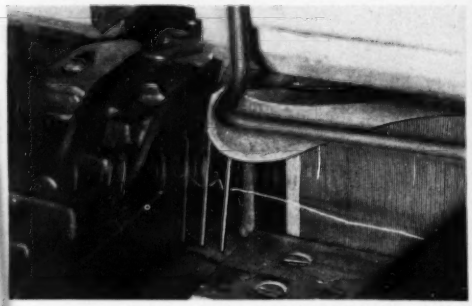
with the New Type 1532-B **STROBOLUME**



Entrance of Shuttle Into Shed

Flexing of Shuttle Check Strap Just After Picker Stick Strikes It on Forward Motion

Boxing of the Shuttle



Action of Filling In Side Fork Filling Motion

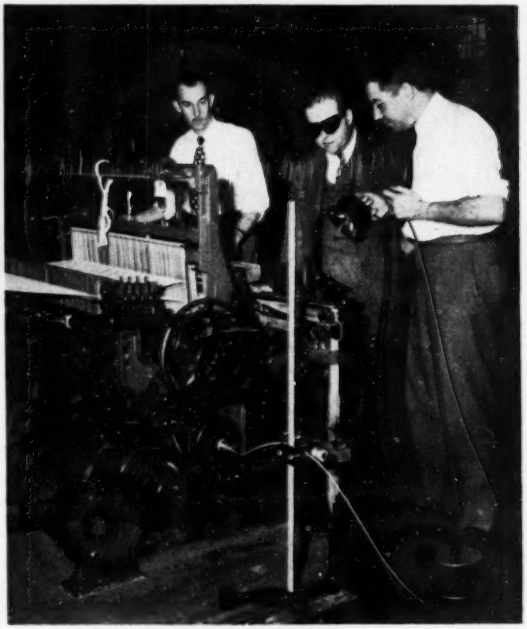


Photo Courtesy Lowell Textile Institute, Lowell, Mass.

With the new Type 1532-B STROBOLUME and the new Type 1535-A Magnetic Contactor, all of these loom operations can be seen just as clearly as they were photographed with this equipment.

In addition, these important motions can be observed, to check their performance or to explain their operation:

Flight of Shuttle — *Behavior of Filling on Bobbin*
Looping of Filling as Shuttle Enters the Shed
Boxing of Shuttle — *Contact of Filling Feeler and Bobbin*
Transfer of Bobbins — *Action of Cutters*
Clearance of Protection
Raising of Parallel Shoe from Parallel
Behavior of Beat Up — *Flexing of Picker Sticks*
Checking of Mesh Gears

In your maintenance and daily operation isn't it of great importance for you to KNOW that all of these motions of the loom are performing properly? The new Type 1532-B STROBOLUME is the answer. Let us tell you why.

Write for a copy of **STROBOSCOPIC EYES FOR INDUSTRY**

GENERAL RADIO Company

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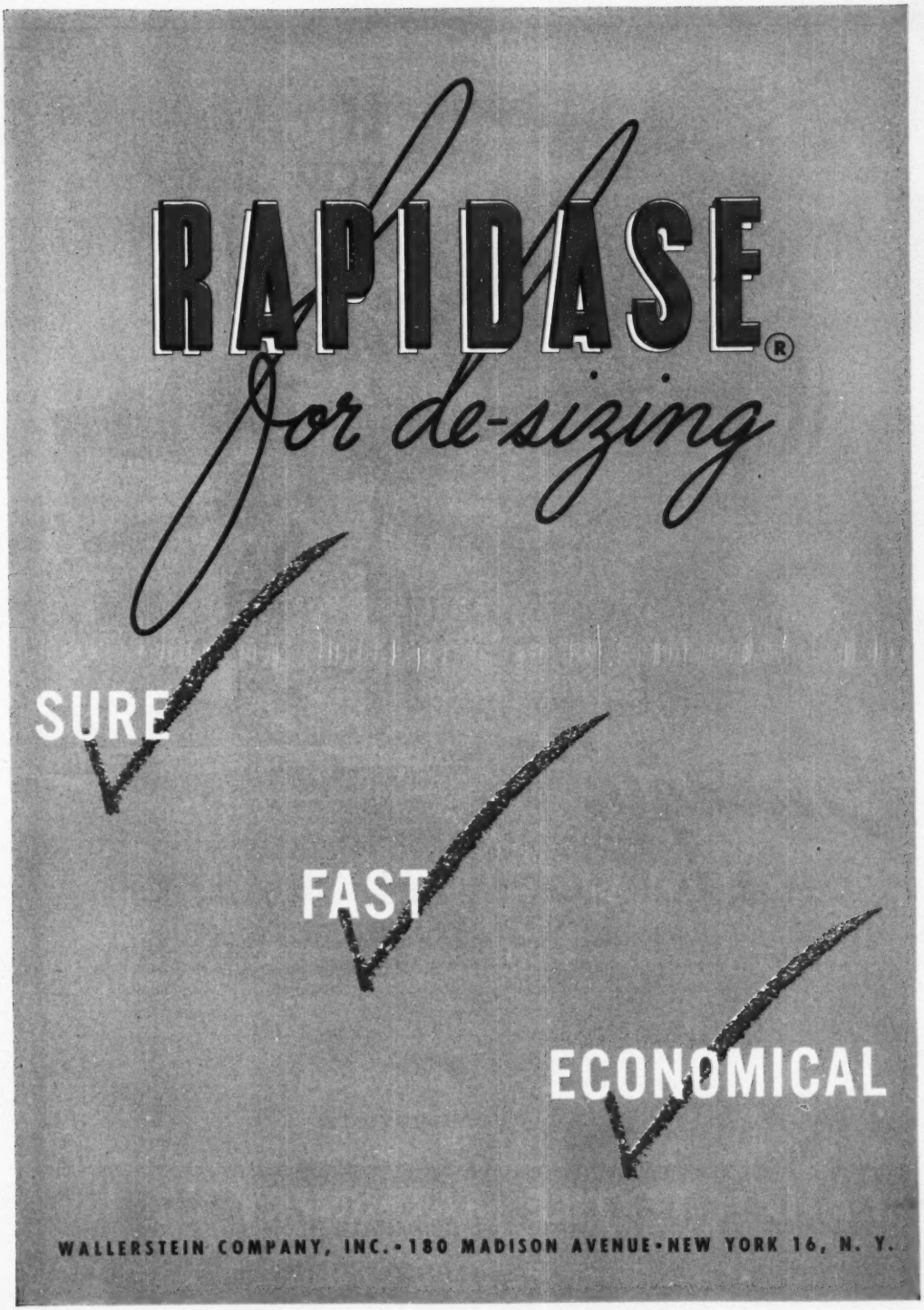
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Strength

FOR TOP LOOM PERFORMANCE

In the modern textile mill, added loom strength and stamina are vitally essential to meet the requirements of hurried production schedules. The quickest and most economical way to realize this "extra production" is to install Bahan Top Girts on your present looms. Bahan Top Girts take up where the loom itself leaves off . . . afford smoother, faster operation of the loom . . . cut maintenance costs to the bone . . . result in a higher quality of fabrics . . . help to make weaving more profitable.

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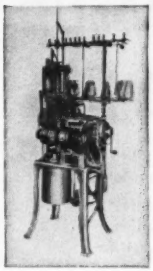
BAHAN TEXTILE MACHINERY CO., Inc.

DESIGNERS AND MANUFACTURERS OF RELIABLE TEXTILE MACHINERY FOR OVER 30 YEARS

Greenville, South Carolina

Spark your line with smart ribbed hose in a rich variety of patterns



made on the

S&W Modern Komet Links & Links Machine

Using all the popular new yarns (as illustrated by the six hose below with their various combinations of plain ribs), the S&W Modern Komet Links & Links Machine produces an endless variety of men's ribbed hosiery. Tops are ribs in varying widths with or without rubber; legs and feet are plain stitch, single or broad ribs to toe, or Links and Links patterned. Diameters up to 4½", and all gauges from coarse 84 needles, 12 gauge, to fine 240 needles, 54 gauge inclusive.

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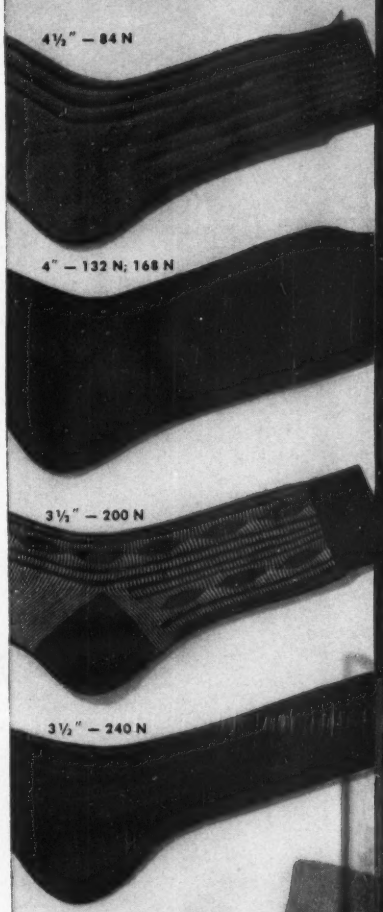

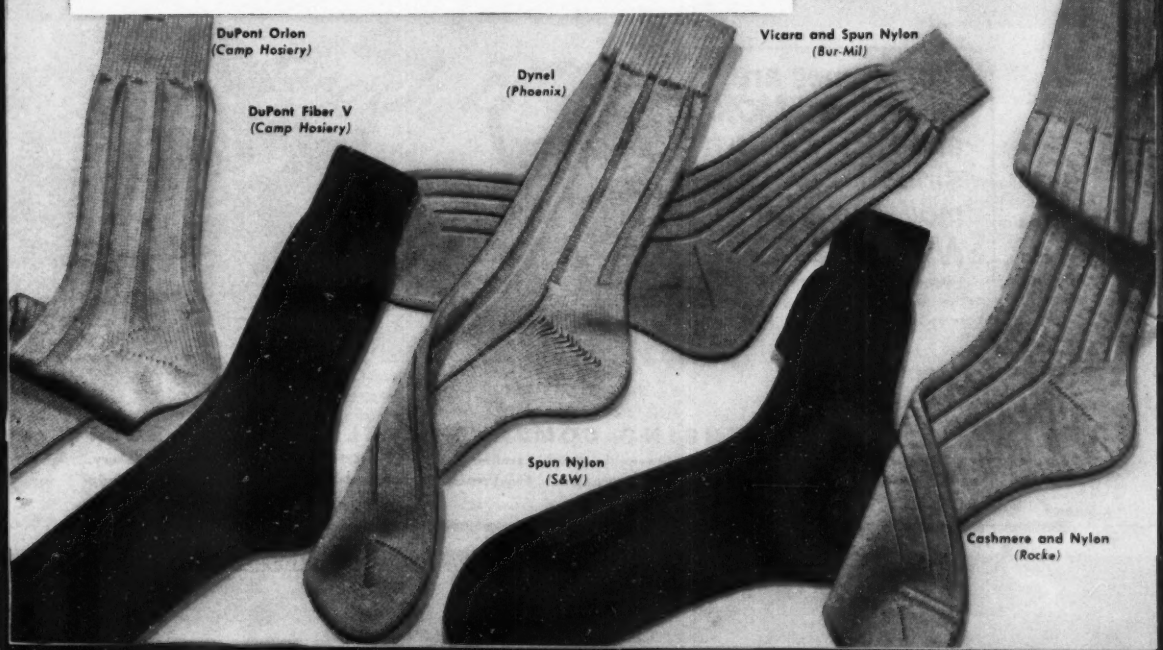

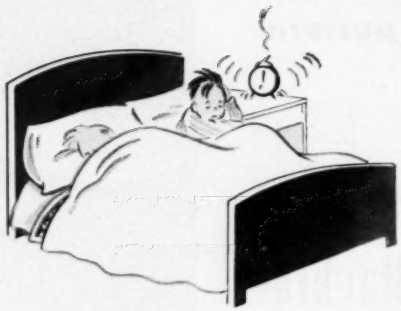

Can't get 'em up on Monday?

If you can't get frame production up after week-end shut downs, due to bands popping off, or waste from slack bands, or from sticky wooden-bearing tape tension pulleys,—do as scores of other mills have done, and

get Meadows Modernizers

and you'll end Monday-morning band, sticky tape-pulley, and cylinder troubles *for keeps!*... Convert your frames to tape drive with Meadows individual drive pulley and ball-bearing tape tension pulleys, and be assured of even tension at *all times*—a more uniform speed and twist—fewer ends down. Can be easily and quickly installed on either band-driven or old-style tape driven frames.

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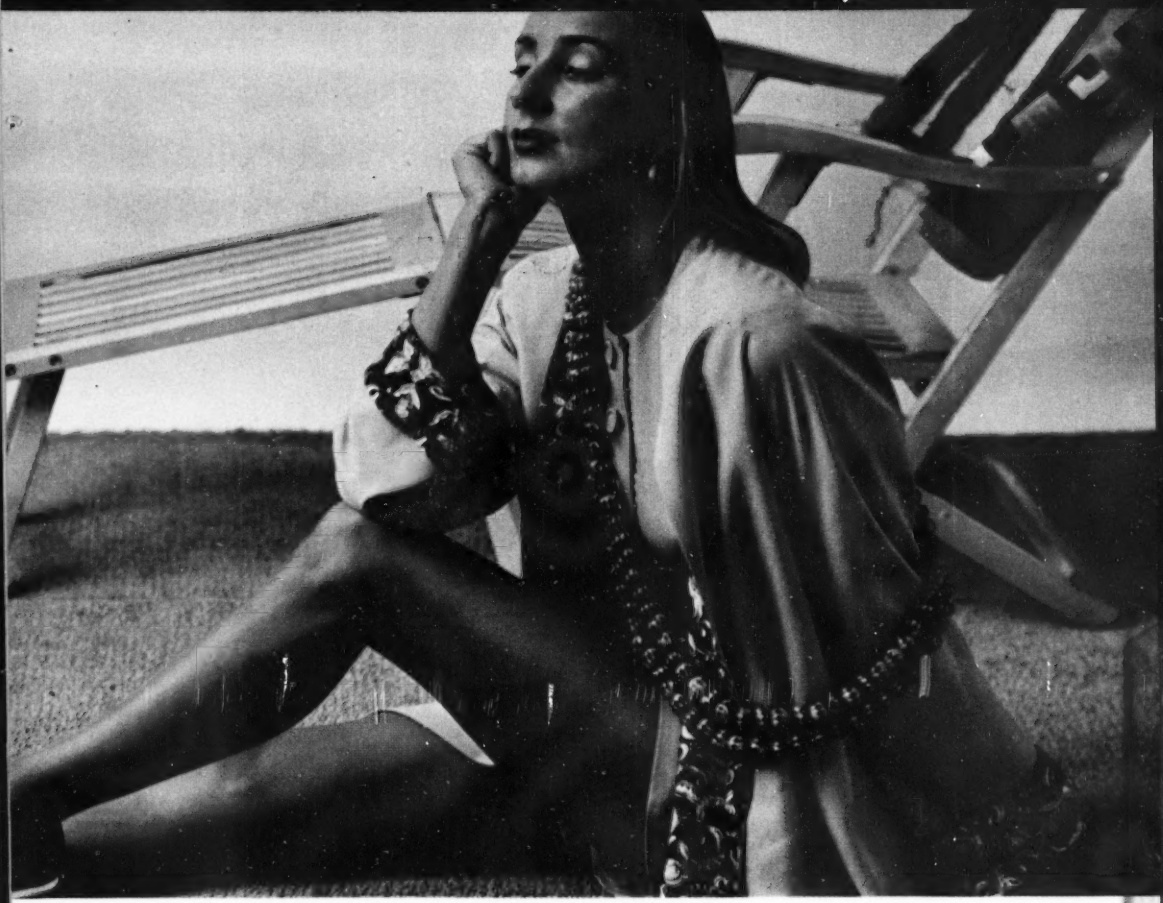
SANDOZ PRESENTS *The color achievement of the month*



Beach Beige ...in UNIDURE®

Well suited for sunwear is this smart young lady.

And so is UNIDURE, United Piece Dye Works' wrinkle-resistant finish which gives fabrics *permanent* crispness despite repeated dry-cleaning or laundering.

But the use of such finishes demands dyestuffs which will not only survive cleaning but will take the mill finishing treatment without harm.

Among the very few dyestuffs which are *not* affected in shade or fastness-to-light by such processing are Sandoz PYRAZOL Fast Blues FLL, 2 GLN, LUL, RUL, GUL, FGL and PYRAZOL Yellow RSW, Orange 4G, Green 4BL, Brown BRL, Violets 2R and 4BL.

To this list of colors which have already proved themselves for use with wrinkle-resistant finishes, we have recently introduced the following for such work:

PYRAZOL DISCHARGE YELLOW G
PYRAZOL DISCHARGE BROWN G
RESOFIX RUBINE BLN
CUPROFIX RUBINE FBL
RESOFIX BLUE GL

For *any* chrome, acid or direct dyes ... or auxiliary chemicals ... for both natural and synthetic fibres ... be guided by the successful "color achievements" you see in these Sandoz advertisements.

DIRECT-DYE COTTON AND RAYON WITH CONFIDENCE IN WASH FASTNESS!

New Sandoz CUPROFIX colors and after-treatment give fastness to washing, light, etc., that formerly required more expensive vat dyeing. Write for booklet on CUPROFIX, already adopted by dozens of mills.

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SAND *thinks ahead with textiles* S

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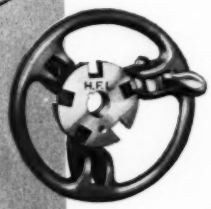

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Complete with Handle and Collar

HFL IMPROVED SPRING BACK DOBBY JACK BACK FOR SILK LOOMS
Complete with Top and Bottom Hooks

There's only **ONE LEADER** in any field . . .

WE ARE GLAD TO SET THE PACE BECAUSE IT HELPS OUR MILL FRIENDS

THE MORE SOURCES THERE ARE, for better-made loom parts, the greater will be the improvement in weaving operations throughout the entire textile industry. Fewer loom stops, easier and quicker repairs, faster operation, better fabrics . . . all come from the use of loom parts properly designed to stand the excessive wear and tear of present-day production requirements.

HFL IMPROVED LOOM PARTS are the result of combining engineering principles with the use of materials exactly suited to a particular need. Stresses and strains have been anticipated and relieved. The parts have been improved . . . HFL-improved!

Why not use the best? Why not standardize on HFL improved loom parts? Why not take full advantage of **LIVERMORE LEADERSHIP?**

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GETTING THE MOST FROM TWISTING

Information about twisting designed to show improvements in twisting equipment and new ideas in the twisting operation

HOW DOES MODEL 10 STOP MOTION WORK?

Atwood Model 10 Ring Twister

The unique arrangement for stopping both the feed rolls and the spindle when yarn breaks or runs out on the Model 10 provides these important benefits:

1. Knots can be tied in the single end.
2. Drop ply can't get into the package.
3. Roller laps are prevented, eliminating waste.

How does the stop motion operate to make these advantages possible?

Two Stop Motion Elements

The Model 10 stop motion (Fig. 1) has two elements, primary and secondary.

Individual ends pass through porcelain eyes in drop wires located *above* the feed rolls. When an end breaks or runs out, the drop wire for that particular end tilts backward, causing an extension on the drop wire foot to depress a knock-off wire (arrow in Fig. 1). The knock-off wire in turn causes the feed rolls and spindle to stop (as explained below). This is the primary stop motion. It permits tying knots in the single end.

After passing around the feed rolls, the combined ends of yarn pass over a pulley which is located on the outer arm of a stop motion lever. When the yarn is running, it prevents the weight of the lever's inner arm from depressing a connector which couples the knock-off to a trip wire. But if a break occurs in the plied yarn, the lever is released, and an extension on the inner arm (circle in Fig. 1) depresses the connector and trip wire, thus causing the feed rolls and spindle to stop. This is the secondary stop motion.

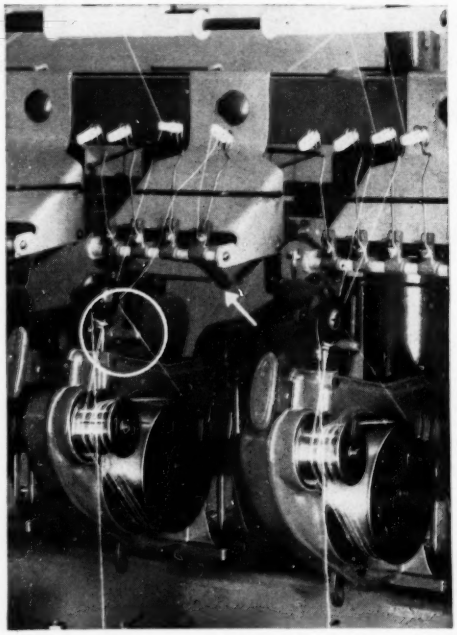

Fig. 1.
Model 10 Ring Twister, showing stop motion assembly. A run-out of yarn has caused the unit at the left to be "knocked off" by the stop motion, preventing the loose end of yarn from reaching the feed roll and causing roller lap.

Actually, the feed rolls and spindle are not stopped at the same time. Whenever either stop motion goes into operation, there is a slight, but important, delay between the time the feed rolls stop turning and the time the spindle "knocks off." Similarly, when the spindle is put back in operation, the same difference in timing holds true — although in both cases the actions of feed rolls and spindle appear to be simultaneous.

The reason for the difference in timing is that the feed rolls must stop first in order to control the yarn and keep it under tension. Conversely, when the spindle is put back into operation, the feed rolls must not start feeding before the spindle has started; otherwise, slack twist will result and the yarn will not be placed firmly on the bobbin.

23.0.6

June 1951

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL WINDING COMPANY

Atwood Division

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Here is *Exactly WHY* a V-Belt with CONCAVE SIDES Gives You *Longer Wear!*

To see for yourself how a V-Belt that has *concave sides* is certain to give longer wear, just make this simple test:—

Pick up any V-Belt you have at hand. Bend that belt as it bends around a pulley. As it bends, grip its sides between your fingers. Here is what will happen *everytime*.

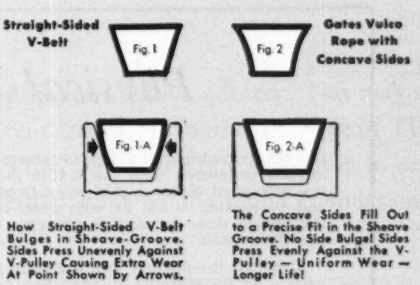
If the V-Belt you are testing has *straight sides*, you can feel those sides *bulge out* as the belt bends. This out-bulge forces the sides of the belt to press *unevenly* against the V-Pulley and you naturally get *concentrated* wear just where the bulge is greatest—as shown in figure 1-A, at right.

Now, make this same test with the belt that is built with *Concave Sides*—the Gates Vulco Rope!

Whereas you felt an *out-bulge* when you bent a belt with straight sides, you find that the *Concave Sides* merely fill out and become *perfectly straight*. The sides therefore *press evenly* against the V-Pulley. This distributes the wear *uniformly* across the *full width* of the belt. Naturally, this means longer belt life and *lower* belt *costs* for you!

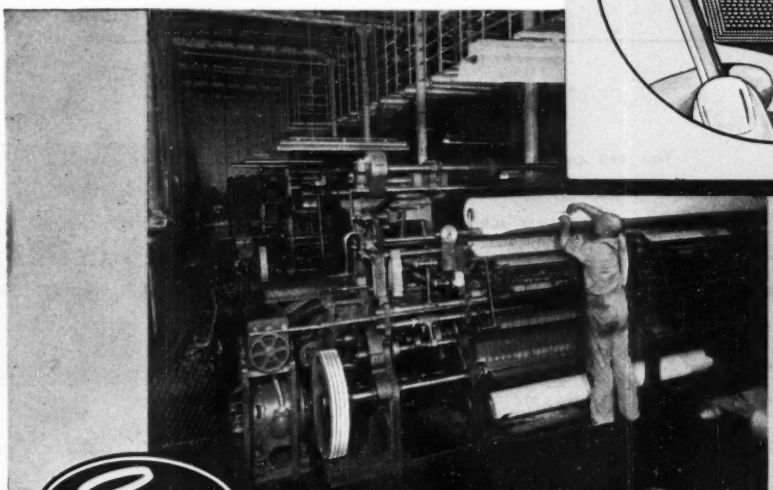
Only V-Belts made by Gates are built with concave sides. Whenever you buy V-Belts, be sure that you get the V-Belt with the Concave Sides—The Gates Vulco Rope!

What Happens When a V-Belt Bends



How Straight-Sided V-Belt Bulges in Sheave-Groove. Sides Press Unevenly Against V-Pulley Causing Extra Wear At Point Shown by Arrows.

The Concave Sides Fill Out to a Precise Fit in the Sheave Groove. No Side Bulge! Sides Press Evenly Against the V-Pulley — Uniform Wear — Longer Life!



31 lace machines at Field Crest Mills, Zion, Illinois, were originally driven by open gears. All were converted to Gates Vulco Rope Drives in 1946. Many of the drives still are using the *original* sets of belts.

D CS-517

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"Never before have I seen such article as the one titled,

Physical Textile Testing

is a manual which should be of interest to anyone connected with the textile industry who must either test his own product and processing work, or who must have the testing done by outside concerns and use the results.

Although the manual was prepared primarily for the training of laboratory technicians at the West Point Manufacturing Company, it has been found useful by assistant overseers, technologists, top production men, executives of the company, men who sell the company's products, and the customers of the company.

It describes in a straightforward manner and in simple terms the physical tests which are made on textile products, and as such it provides a type of reference material long needed by the industry.

At West Point the testing department is a component of the Research Division. As an entity it tests both stock in process and finished goods in an unbiased manner, serving alike the manufacturing, executive, and sales divisions.

The testing department seeks only one fact—the truth. Accuracy is essential in getting the truth. And accuracy is the goal of the laboratory personnel.

The testing department personnel are also trained to notice inordinate findings. When this is done and the facts are reported, executive authority is in a position to make decision competently.

The testing manual aids the laboratory in its search for the truth, by standardizing testing methods. In turn, the manual permits the manufacturing divisions, the sales agents, and the customers of the company to understand how the products are tested.

You can get your copy of this wonderful 40-page article together with a three-year subscription to TEXTILE INDUSTRIES for only $5.00. Think of it, 36 issues of the leading textile magazine of America, each one packed with practical information on mill management and operation covering synthetics, wool, silk, cotton, blends, opening, picking, carding, spinning, throwing, weaving, knitting, dyeing, bleaching, finishing, etc., for less than ½ cent a day. Use the coupon, and take advantage of this valuable offer.

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a complete and exhaustive 'Physical Textile Testing'"

. . . this comment from a reader typifies the tremendous response to the most important treatise on testing published in the last twenty years. This outstanding article has been acclaimed by experts and executives in all branches of the textile industry as one of the most valuable pieces of work on testing textiles ever printed.

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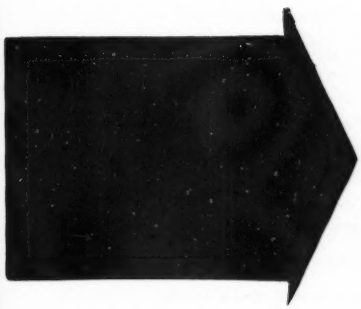

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The Double Disc Model maintains constant tensions at speeds of approximately 1000 yds. per minute. It is excellent for tender, high twist yarns. Available in two types—10 to 140 grams and 100 to 300 grams.

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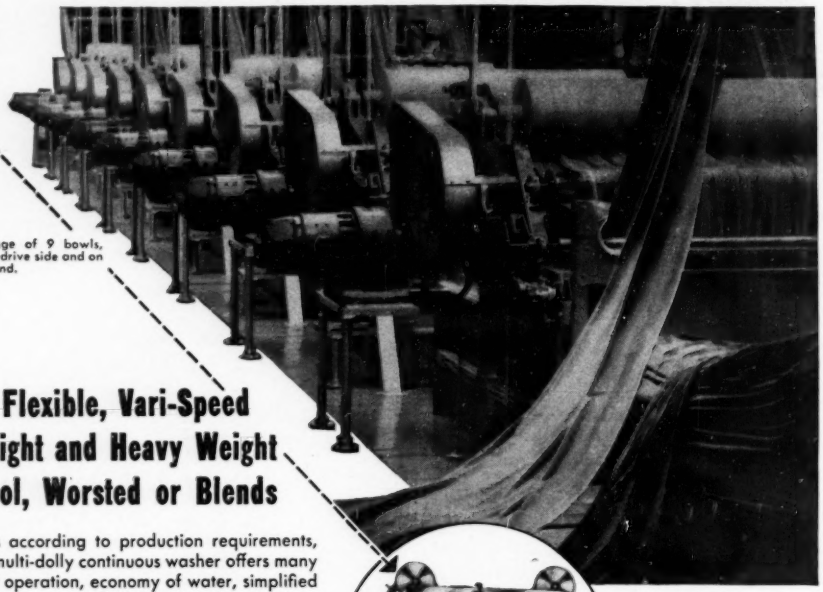

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Made in various sizes according to production requirements, this newly developed multi-dolly continuous washer offers many advantages in ease of operation, economy of water, simplified automatic synchronization, accessibility and reduced labor. Among the many improvements over existing washers are:

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2 AC-DC drive with rheostat speed control — no side shaft to prevent easy accessibility. Variable speed according to number of bowls and operating conditions.

3 Positive counter current flow, with constant uniform pre-determined liquor level in each tub. Made possible by R & L stainless steel Flooded Suction Low Head Pump.

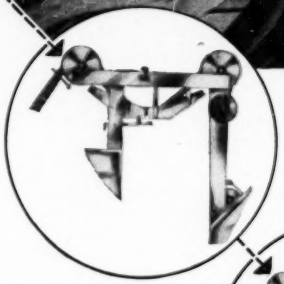
4 New shape of tub for smoother operation and fewer stops for rethreading.

5 Each unit kept in step by the new Riggs & Lombard FREE-LOOP Electri-matic Compensators. Cloth is tensionless throughout the range. Threading is faster and easier.

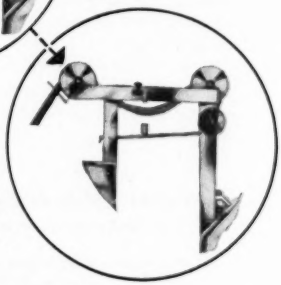
6 Folding or plaiting cleat rolls provided for smoother operation and uniform treatment.

7 Provision can be made for flow of liquor to stop automatically when machine stops, effecting increased hot water savings.

8 Cloth fully protected against damage of electric stop motions.



FREE-LOOP Electri-matic Compensator, Contact Type — When loop of cloth completes electrical circuit by making contact between two metal plates, main drive on the next tub speeds up as required.



FREE-LOOP Electri-matic Compensator, Trip Type — Loop of cloth runs in a synchronizing position between two electric eye units. When loop intercepts the proper beam, drive on the next tub changes speed as required. Trip bars can be used instead of photo-electric cells.

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Scroop: For the development of scroop on nylon marquisettes, rayon linings, satins, taffetas, ribbons. Also, *luster control* on sheers, linings, taffetas, lingerie fabrics, and elastic webbings.

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down with "downtime"!

It isn't always the *big* things that throw a profit and loss statement out of line. Many times, a lot of little things can make a big difference. ... Take lubrication, for example. Each machine in your mill has its own requirements. By using the *precisely correct* lubricant in each instance, you reduce "downtime" by lengthening the periods between overhauls. More than that, you effect production economies by reducing power consumption, machinery wear and maintenance costs. Increased production is attained because machinery operates faster and longer. ... Backed by a company which has served the textile industry of the South for more than sixty years, and fortified with long training and experience, your Standard Oil representative is highly qualified to "blue-print" your lubrication needs. Why not call him in today?

STANDARD OIL COMPANY (KENTUCKY)

Avisco Develops Springier Rayon Staple for use in both Apparel and Upholstery

To meet the need for a springier and coarser rayon staple for apparel and upholstery uses, Avisco has developed an 8-denier crimped staple. This new product has a bouncy hand approximating wool 58-60's. It rounds out the rayon staple line by filling the vacant niche between 5½-denier, the coarsest apparel staple made up to now, and 15-denier carpet staple.

A Variety of Uses

Men's and boys' sweaters, bath mats, upholstery and drapery fabrics, all made entirely of 8-denier rayon staple, are in limited commercial production. Other suggested uses, both for 100 per cent and for blends, are in men's hosiery, slacks, suitings, blankets, hand-knit yarns, knitted and wooly-type neckwear and terry cloth.

Stiff, bristly effects are possible, similar to those obtained with mohair and coarse apparel wools. The new, 8-denier staple has been blended experimentally with mohair in frieze and plush fabrics, and the results have been highly satisfactory.

Greater Resiliency Achieved

Considerably more resiliency results from use of the new staple than may be obtained with 3- or 5½-denier rayon staple. The fabrics made with 8-denier staple cannot be approached with either finer rayon staple or with cotton. On the other hand, bath mats and throw rugs made with it are soft and luxurious.

Exceptional wearing qualities are indicated by preliminary wear and abrasion tests. Use tests are under way, but have not been completed.

Among the many advantages of the 8-denier rayon staple is that it can be spun on the cotton as well as the worsted and woolen systems.

The applications now in limited commercial use include yarns spun of 100 per cent 8-denier staple on all three systems.

Limited Production at Present

Production is on a pilot-plant scale, and probably will remain so for some time. Avisco is not seeking to market it now, since commercial production would have to be at the expense of other sizes, the demand for which exceeds the company's productive capacity. The corporation is interested, however, in encouraging experimental work with limited quantities, as it believes the future possibilities of 8-denier rayon staple are great.

Inquiries are invited. Address: American Viscose Corporation, Rayon Staple Sales, 350 Fifth Avenue, New York 1, N. Y.

MAKE USE OF *Avisco*® 4-PLY SERVICE

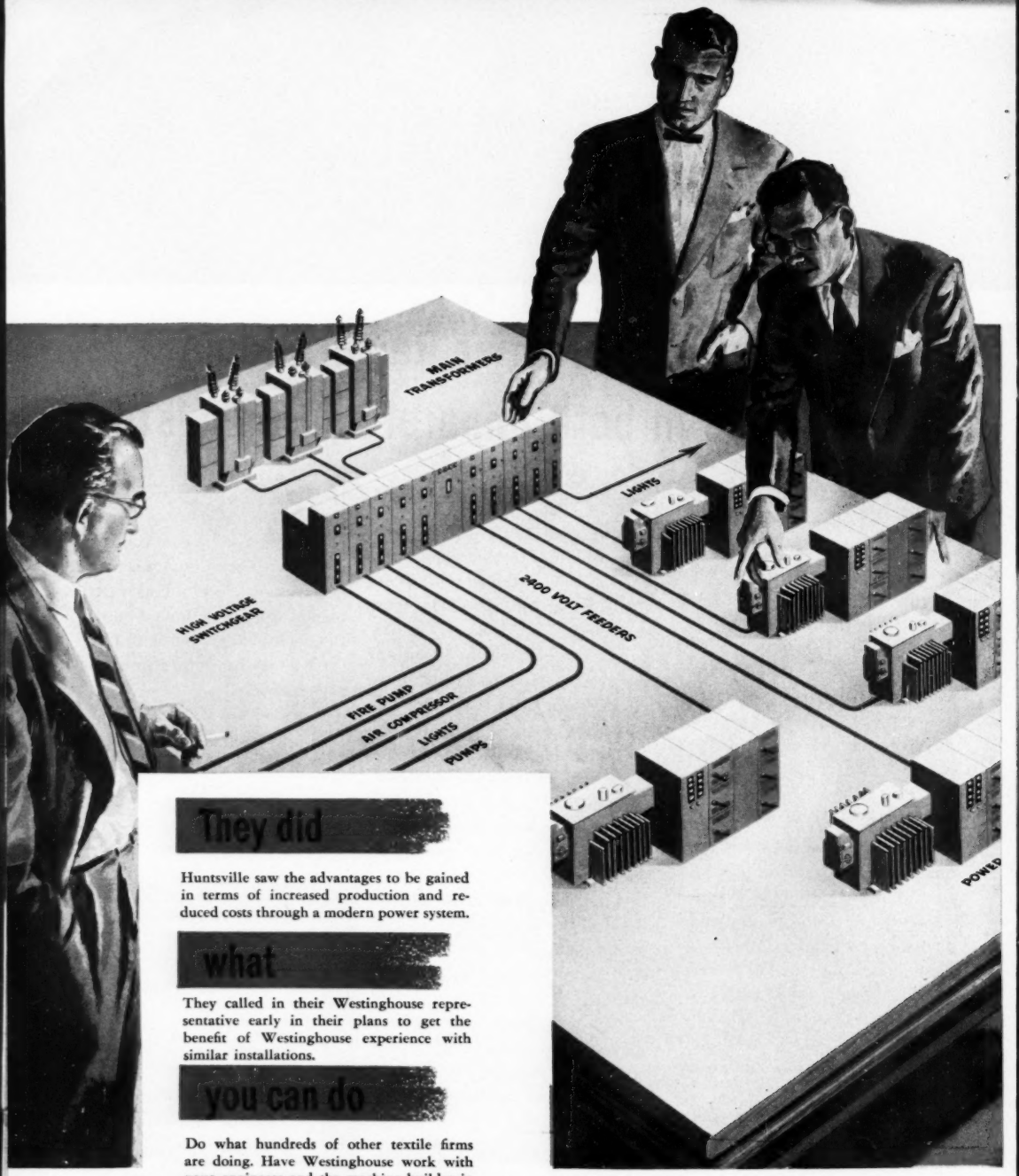
To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.



They did

Huntsville saw the advantages to be gained in terms of increased production and reduced costs through a modern power system.

what

They called in their Westinghouse representative early in their plans to get the benefit of Westinghouse experience with similar installations.

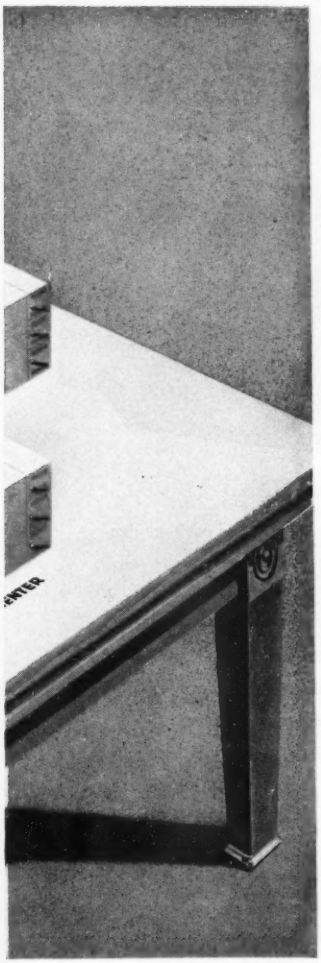
you can do

Do what hundreds of other textile firms are doing. Have Westinghouse work with your engineers and the machine builder in applying equipment to your plant.

to produce more

Whether it's more dependable and efficient electrical distribution like this, a new drive, better servicing, or simply the application of a piece of electrical equipment to do a tough job—Westinghouse has the answer.

Modernized Power System saves money, stops plant-wide shutdowns



If an outdated power system is slowing your production and boosting power bills, here's an idea. M. Loewenstein & Sons had this problem in their Huntsville Manufacturing Company's cotton mill. So they had Westinghouse help design a new system and supply modern apparatus. Here are the results:

In six months: One minor stoppage

With their old system, every electrical storm caused power stoppages throughout the Huntsville plant. Now however, any one electrical fault affects *only 5% of the mill.* In the first six months, with the new system there was just one power shortage. It affected only a small portion of the mill and lasted only 10 minutes!

Cuts $1,000 from monthly power bill

By distributing power more efficiently, the new system cuts the load demand from 5300 kw to 5100 kw. Figuring power cost at 1¢ per kwhr, this saves about $350.00 per month. Even more important, the power factor has been boosted from 80% to 88%—eliminating a $600.00 monthly penalty charge for low power factor.

Makes maintenance safe and easy

Dangerous open switchgear and overhead power lines have been eliminated in the new system. Power conductors now pass through underground ducts, with one phase wire in each duct. If trouble occurs, a ground-detector immediately tells the maintenance man which conductor has faulted. There's no more laborious searching.

Call Westinghouse for system help

If an outdated power system is costing you money, have your engineers get in touch with your Westinghouse office. And if you're planning a new plant, have Westinghouse help design an efficient system right from the beginning. For more information now, write for B-4045, "Industrial Plant Distribution Systems". Westinghouse Electric Corp., Box 868, Pittsburgh 30, Penna. J-94876

YOU CAN BE SURE... IF IT'S

Westinghouse

EQUIPMENT FOR TEXTILE PRODUCTION

DUOFOL

POWERFUL SURFACE TENSION DEPRESSANT

AN EXCELLENT DYE LEVELLING AGENT
RENDERS THE FABRIC HIGHLY ABSORBENT
A SUPERIOR PENETRANT IN PACKAGE DYEING
AN OUTSTANDING WETTING AGENT

Hartex DUOFOL, a sulfated condensation product, is a clear amber oil possessing superior wetting, rewetting, and softening properties. It is clearly miscible with water in all proportions and retains its high surface activity in the presence of hard water, salt, alkali, or weak acids.

DUOFOL was developed for instantaneous wetting in baths at all temperatures up to the boil.

It is recommended for dyeing operations in general and specifically for vat and package dyeing to give greater uniformity of shade.

When a solution of DUOFOL is dried into a fabric, it renders the fabric highly absorbent (rewetting property). In addition, DUOFOL acts as a softening agent making its use doubly advisable in compressive shrinkage operations.

Quantities as low as 4 oz. per 100 gallons have proved satisfactory for most applications.

Hartex Products

Rayon Oils & Sizes	Conditioning Agents	Cationic Softeners
Nylon Oils & Sizes	Scrooping Agents	Cotton Warp Dressings
Kier Bleaching Oils	Splashproof Compounds	Wetting-Out Agents
Finishing Oils	Delustrants	Weighting Agents
Synthetic Detergents	Leveling Agents	Mercerizing Penetrants

HART PRODUCTS

based on research

THE HART PRODUCTS CORPORATION
1440 Broadway, New York, N. Y.

You get practical help
on lubrication and maintenance problems

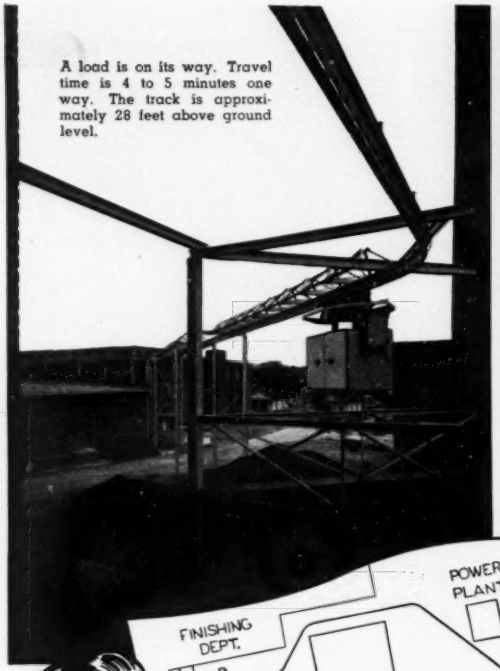
when the Gulf Lubrication Engineer *is in the picture*

One of the best sources of help on any problem that involves lubricants or lubrication is a trained Gulf Lubrication Engineer.

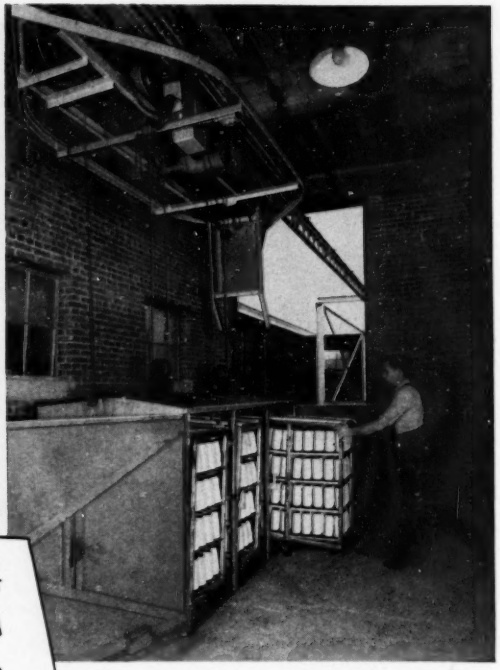
Gulf Lubrication Engineers are experts in petroleum technology—they are familiar with refining processes, properties, and the past performance records of various types of lubricants. They completely understand the effect of different operating conditions on lubricants. And, just as important, they know the lubrication requirements of all types of textile equipment. The application of this knowledge and experience to each individual problem helps reduce maintenance costs and improve performance.

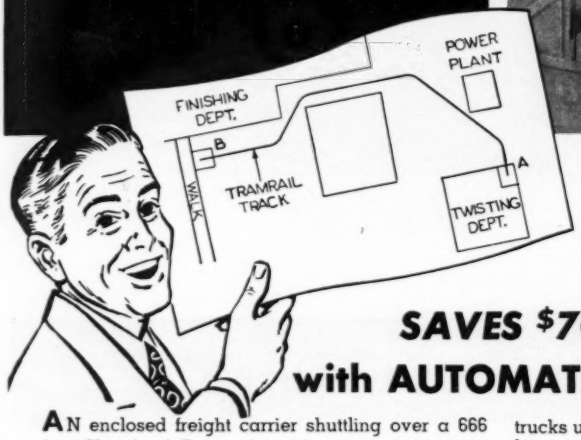
To get the benefits of this expert engineering service for your equipment, call in a Gulf Lubrication Engineer today. Write, wire, or phone your nearest Gulf office. Gulf Oil Corporation • Gulf Refining Company, Gulf Building, Pittsburgh 30, Pennsylvania.

FIFTY YEARS OF SERVICE
1901 GULF 1951
PETROLEUM AND ITS PRODUCTS



A load is on its way. Travel time is 4 to 5 minutes one way. The track is approximately 28 feet above ground level.





Four trucks are accommodated by the Tramrail freight van, which, at the press of a button, is on its way without attendant. The van stops and lowers automatically at each end of the system. In fair weather or foul it travels with safety and dispatch. Points on each end of Tramrail carrier guard pry open doors of loading station automatically. The system requires very little building space because it need not be enclosed.

SAVES $7000 PER YEAR with AUTOMATIC DISPATCH SYSTEM

AN enclosed freight carrier shuttling over a 666 foot Cleveland Tramrail archbeam track between the Twisting and Finishing Departments of the China Grove Cotton Mills Co., China Grove, N. C., is saving $7000 per year.

This system has eliminated a drudgery that was disliked by labor and costly to management. No longer is it necessary for men to push and lug floor trucks up ramps, on elevators and over long walks between the buildings. No longer is the work held up because of rain or inclement weather. Frequent accidents from manual hauling are done away with.

For the investment involved, this automatic system is paying large dividends in profits and convenience for this mill which is one of the largest producers of thread yarn in the South.

GET THIS BOOK!
BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
2273 EAST 285th ST. WICKLIFFE, OHIO

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

KNIT OR WEAVE

Quality-controlled

STANDARD *Durene helps you beat schedules**

Even when the pressure's on full for production, Standard Durene gives you top performance . . . knit and woven goods of unmatched uniformity and smoothness.

*Reg. U.S. Pat. Off.

Standard-Coosa-Thatcher Co.

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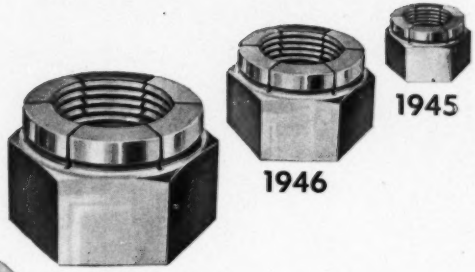
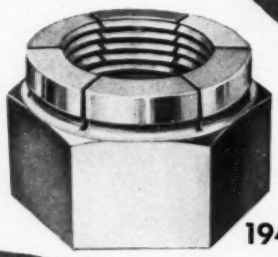
READING, PA. 509 WALNUT ST.
GREENSBORO, N. C. GUILFORD BUILDING
UTICA, N. Y. P. O. BOX 105

REPRESENTATIVES IN CANADA, CENTRAL & SOUTH AMERICAN COUNTRIES

Standard Durene • S-C-T Cotton Industrial Threads

FLEXLOC®
SELF-LOCKING NUTS
"They won't work loose!"

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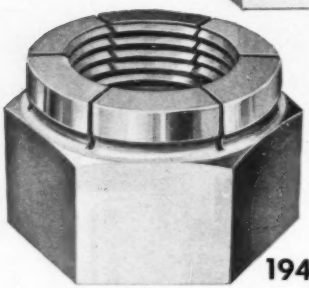
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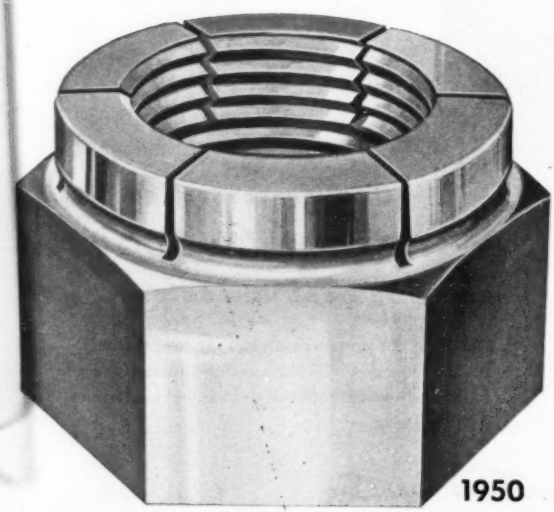

1950

GROWING
in importance . . .

You'd be surprised at the number of new accounts we add each week for FLEXLOC—our *one-piece, all-metal, stop- and lock-nut that "won't work loose!"*

Nearly every branch of industry is represented, and there is unquestionably a rapidly growing preference for self-locking nuts that won't unwind, once they have been tightened.

This is because nuts that *stay tight* promote uninterrupted production and cut maintenance costs—two important economy factors.

FLEXLOC features include: *one-piece, all-metal construction*—nothing to shift, work loose, or forget; *resilient, automatic-acting locking sections* that are responsible for FLEXLOC's closely controlled torques; *positive, ample resistance* to the most chattering vibration; and last but not least, the fact that the FLEXLOC Lock-Nut can be reused a great many times.

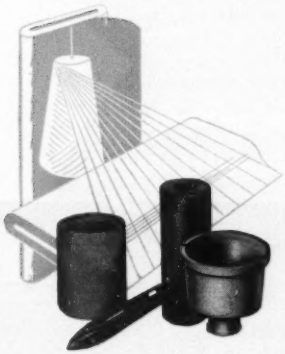
Our FLEXLOC Catalog No. 619-A tells the whole story. It's yours for the asking. And if you'd like some sample FLEXLOC Nuts, we'll be glad to send them.

SPS **STANDARD PRESSED STEEL CO.**

JENKINTOWN 34, PENNA.

Wherever textiles are made...

micarta is basic!



TEXTILE INDUSTRY

MICARTA does important textile jobs better than other basic materials. Bobbins, spinning buckets, lap rolls and shuttles are only a few of the MICARTA products which stand up under tough operating conditions. When you're looking for better performance, investigate the paying qualities of MICARTA.

MICARTA® is important in the making of cottons, synthetics, wools and blends. It is a basic material . . . a versatile, durable plastic. It stands up to punishment in bobbins, spinning buckets, lap rolls, shuttles . . . wherever the job calls for long life, smooth wear.

MICARTA won't chip or splinter . . . can't snag yarns or fabrics. It absorbs shock and vibration, resists heat and cold. MICARTA outlasts metal and wood in many key textile applications. This basic material can be machined, formed or molded easier and more economically than any metal.

Explore the paying qualities of this lighter-than-aluminum plastic. Westinghouse Electric Corporation, MICARTA Division, Trafford, Pennsylvania. J-06450

Do the new synthetics make it hot for you?

If you've run any of the new synthetics you know what we're talking about.

If you haven't, here's the picture.

Almost all of these new fibers have to be worked at low relative humidities. And, when you reduce the humidity, an evap cooling system is helpless.

It can't hold temperatures down. It can't prevent them from fluctuating all over the place.

And as temperatures fluctuate so do the running properties of the fiber . . . only more so!

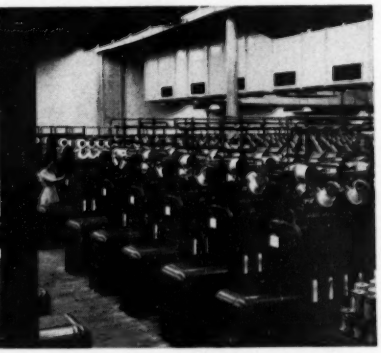
What does this add up to?

Just this: If you're going to keep pace with demand, your mill will be running some of these new synthetics soon. And for that you should have complete air conditioning with refrigeration. And when you have that, not only will your fibers be easier to run, but your machines will stay in adjustment longer and your men will be able to do more.

Like the idea? Write Carrier Corporation, Syracuse 1, N. Y.

Carrier

AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING



At Knit Products Corporation, two Carrier Central Station Systems plus refrigeration maintain 80 degrees and 50% relative humidity. Under these conditions, these 60-gauge machines turn out more dozens of pairs, more firsts, fewer irregulars.

In Judson Mills, Greenville, S. C., Carrier Air Conditioning with refrigeration is now maintaining 60% relative humidity and a temperature of 86 degrees for the processing of filament rayon.

SURE AS HOOTING...

TRITON X-100

speeds your processing from gray to finish

Makes water wetter —so it penetrates better

TRITON X-100 is a concentrated 100% active penetrant and detergent, non-ionic, and alkali-and-acid stable. As a scouring agent for wool, cotton and synthetic fibres, it is a fast wetter, an excellent detergent and an outstanding emulsifier for oil and grease. And in dyeing and finishing too, it speeds processing and cuts costs. Be wise and thrifty. Send for full details of TRITON X-100 today.

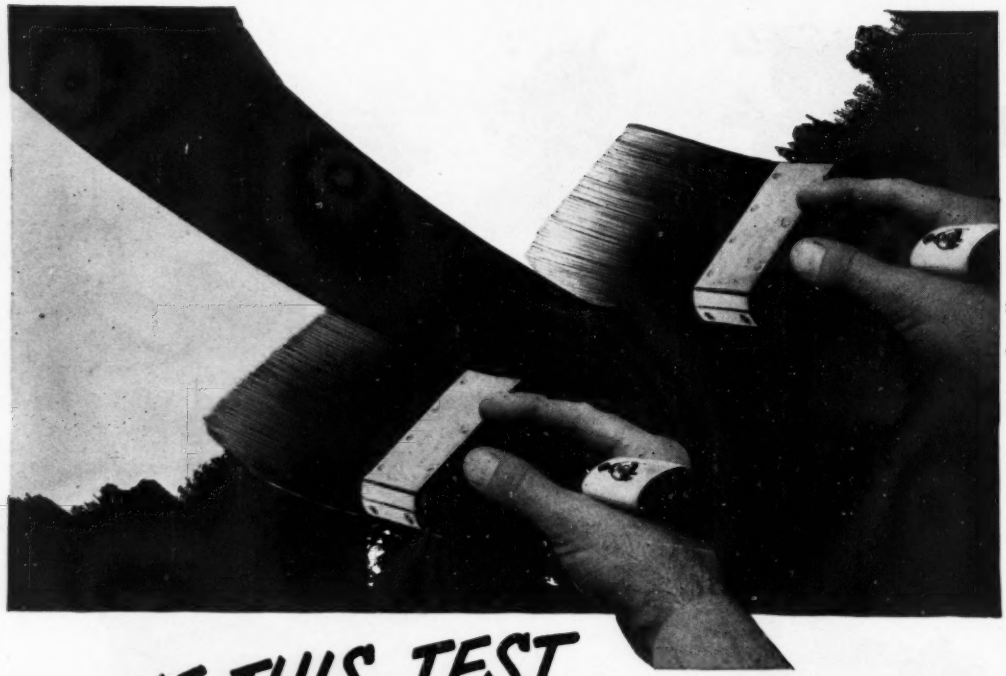
CHEMICALS FOR INDUSTRY

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

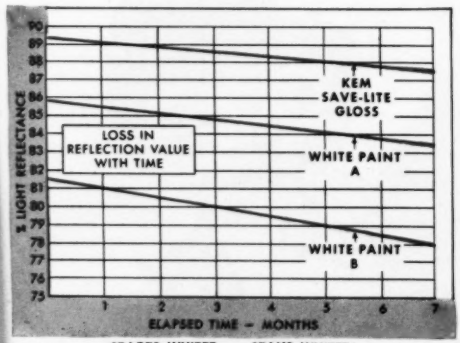
Representatives in principal foreign countries

TRITON is a trade-mark, Reg. U. S. Pat. Off. and in principal foreign countries.



MAKE THIS TEST

before you paint your plant!



STARTS WHITER . . . STAYS WHITER!

Note how the whiteness, or reflective value, of Save-Lite *starts* higher than conventional finishes when first applied, and *continues* higher, as time goes on. This means *longer* intervals before repainting is required.

Compare KEM SAVE-LITE with ordinary whites

SEE why it stays cleaner—longer!

See for yourself the difference there can be in the whiteness of "white" finishes . . . even when they are first applied! Make a side-by-side comparison of KEM SAVE-LITE Mill White against conventional white finishes on any wall surface in your plant.

You can see the difference, from the start, in gleaming, brilliant whiteness...a difference because of the *controlled,* light-reflective properties that are designed into SAVE-LITE Mill White Finishes.

KEM SAVE-LITE *starts* whiter . . . KEM SAVE-LITE *stays* whiter, as the actual light reflectometer measurements in the comparative chart show. You'll find these same properties, too, enable it to hide better and cover farther! Call your Sherwin-Williams representative today for a demonstration, or write The Sherwin-Williams Co., Cleveland 1, O. (Division Offices, Charlotte, N. C. and Boston, Mass.)

SHERWIN-WILLIAMS

INDUSTRIAL MAINTENANCE FINISHES

SAVE-LITE MILL WHITE • COLOR HARMONY FINISHES

MILL VILLAGE PAINTS

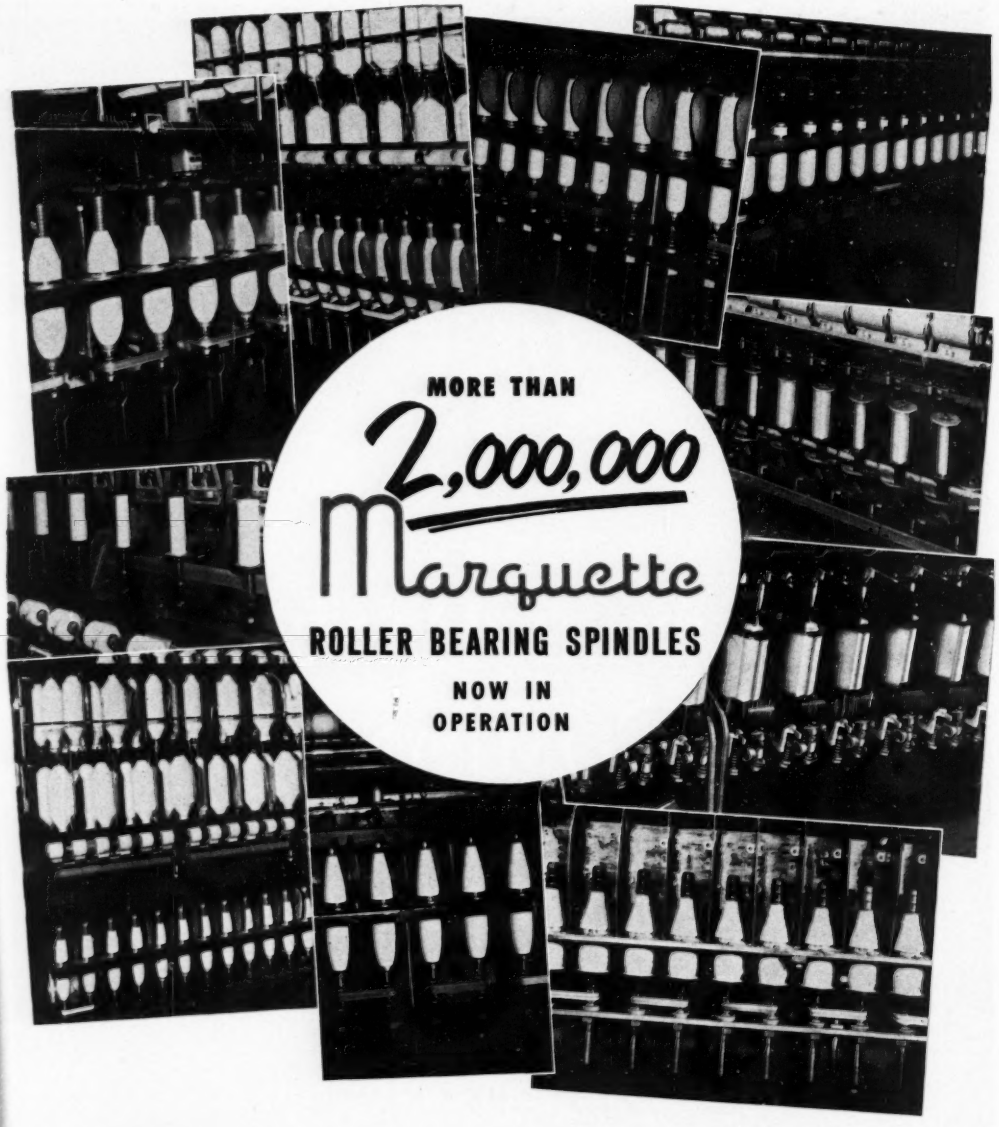
TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK



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Textile Industries
Vol. 115 • July, 1951

News in Brief

American Textile Men Visiting Britain. A team of American cotton textile experts is visiting the United Kingdom to study British textile manufacturing methods. This time, under an invitation from the members of a British cotton team which visited the U. S. on an ECA-sponsored study trip, the flow of know-how will be in the opposite direction.

Annual Session on Industrial Relations. The 32nd annual meeting of the Southern Industrial Relations Conference will be held at Blue Ridge, N. C., July 18-21. Theme of the conference is to be "Developing the Most Effective Use of Our Manpower."

Hosiery Union Favors Short Week. The American Federation of hosiery Workers has gone on record in favor of a 30-hour work week with 40-hour pay, a guaranteed annual wage, and a mobilization program based on equality of sacrifice.

Stevens Stock to Employees. Plans to sell 100,000 shares of capital stock, par value $15, to be sold under a "purchase plan for employees," [illegible] revealed by J. P. Stevens & Co., Inc., New York.

Complaint on Tariff. The Textile Export Association of the United States has declared that the tariff increases on cotton and rayon goods granted to Cuba at the Torquay conference constitute a serious blow to the American textile export trade. It was pointed out that the increase in tariff on volume prints shipped to Cuba amounts to 116 per cent. Some of the increases on rayon tariffs, it was stated, range up to more than 400 per cent.

U. S. Wool Production Off. The Wool Bureau has pointed out that our sheep population has declined sharply from 47,441,000 on January 1, 1941, to only 28,065,000 at the start of this year, a decrease of 41 per cent. Thus the nation was able to supply only 26 per cent of its apparel wool requirements in 1950, compared with 61 per cent ten years before.

17th Southern Textile Exposition. The prospectus for the 17th Southern Textile Exposition, Greenville, S. C., is being prepared. According to J. H. Woodside, president of Textile Hall Corporation, the next show is to be held October 6-11, 1952. The office of the Exposition, under the management of Miss Bertha M. Green, secretary, is in Textile Hall, 322 West Washington Street, Greenville.

AATCC Olney Medal Award. The Olney Medal Committee of the American Association of Textile Chemists and Colorists has announced that they have selected as the recipient of this annual award for outstanding achievement in the field of textile chemistry, Raymond W. Jacoby of the Ciba Company, Inc., New York City. Mr. Jacoby will be presented with this honor at the 1951 convention of the AATCC, to be held in October.

Scrap Salvage Needed. Additional supplies of scrap must be received if production schedules of

GRANDMA AND THE MACHINE AGE

Grandma (Mrs. E. Lightfoot, 103 South Elberton, Atlantic City) "sticks to her knitting" beside the new M.P.I. hosiery machine exhibited by Scott and Williams, Inc., Laconia, N. H., at the Knitting Arts Exhibition in Atlantic City, April 30 to May 4.

The machine almost precisely copies the movements of grandma's nimble fingers in knitting a sock. In the time that her fingers take to go once around the sock, the machine has knitted a whole sock and is ready for another despite the fact that many colored yarns are used and the pattern is complicated.

"A. P. T. will make the kind of bobbin we want out of

paper

A. P. T. bobbins are tailor-made to your specific mill conditions, incorporating plastic and metal by patented welding process, as needed. Their basic inert fibrous material assures PERMANENT efficiency, free of warping, chipping, splitting, splintering and similar deterioration.

SOME ADVANTAGES OF USING A.P.T. CARRIERS

1. **SURFACE** of correct texture, groove and finish for free but controlled delivery of the particular yarn.
2. **STRUCTURE** by nature resilient and proof against chipping, splintering or cracking; of composition and hardness for the particular need, with light weight.
3. **MOISTURE RESISTANT** due to impregnation; of fibre construction inert to warping and distortion.
4. **UNIQUE DURABILITY:** retain their "brand new" degree of performance throughout their years of life. They do not "wear out" or diminish in efficiency from normal use.

Consult A.P.T.

American Paper Tube Co.
ESTABLISHED 1898
WOONSOCKET, R. I. GREENVILLE, S. C.
CANADIAN REPRESENTATIVES:
JOHN WATSON & CO., TORONTO, CANADA

PRICE CEILINGS ON COTTON SCORED

W. D. Lawson, president of the American Cotton Shippers Association, has stated that price ceilings on cotton are unworkable and impractical to enforce and warned that, if ceilings are continued, eventually the cotton marketing system may be destroyed. Mr. Lawson urged the following program designed to strike at the roots of the inflation problem:

(1) Increased production wherever possible.

(2) Elimination of all non-essential government spending.

(3) Encouragement of private savings.

(4) Imposition of higher taxes on a pay-as-you-go basis.

(5) Effective curbs on the expansion of credit.

(6) Careful allocation of critically scarce materials.

iron and steel for the defense program and civilian allowances are to be maintained. The flow of those products to mills and foundries is not presently keeping pace with consumption, and inventories are falling below safe working levels, according to NPA.

Third Annual ACMI Convention. The third annual convention of the American Cotton Manufacturers Institute, Inc., will be held at the Haddon Hall Hotel, Atlantic City, N. J., May 15-17, 1952, according to Charles C. Hertwig, president.

Bleaching Defined. Silk fabrics are "bleached" within the meaning of tariff regulations when any degree of color has been removed, regardless of the chemicals or processes used to accomplish this removal of color, according to a United States Customs Court decision.

Record Number of Children. Children under 10 years of age in the U. S. number nearly 30 million, an increase of about 40 per cent between 1940 and 1950. Persons 65 years old and over number more than 12 million, an increase of nearly 37 per cent. Females outnumbered males in 1950 by a ratio of 100 females to 98.1 males, according to sample data from the 1950 Census.

3rd Canadian Textile Seminar. The third Canadian Textile Seminar has been planned for September, 1952, at Kingston, Ontario, Canada. The event is biennial, and technicians from the United States and Britain are to be invited.

AATCC Student Chapter. A charter has been granted for a student chapter of the American Association of Textile Chemists and Colorists at Fairleigh Dickinson College, Rutherford, N. J.

Research on Polystyrene. The discovery that molecular reorientation will increase the tensile strength of polystyrene three-fold has been revealed through a fundamental research program on plastics being carried out at Massachusetts Institute of Technology. The new knowledge is already being applied in the production of sheets of flexible polystyrene. Results indicate the possibility of polystyrene fiber for special-use fabrics.

News in Brief

Fluorescent Heels for Nylons. A heel, foot, and seam of fluorescent colors has been embodied in an ingrain-dyed light beige stocking. Summer Hosiery Mill contemplated initial deliveries in June. Pastel green and a rose are to be the two colors available in the heels.

Georgia Cotton Manufacturers Meet. The next convention of the Cotton Manufacturers Association of Georgia will be held April 16-17-18, 1952, at the Boca Raton Hotel and Club, Boca Raton, Fla., according to an announcement by Henry W. Swift, Columbus, Ga., the association president.

Redman Trust Administrator. Frank R. Redman, Yardley, Pa., inventor of the Redman preshrinkage process, now has supervision of the Redman Trust, which for the past five years has directed the development of machinery and licensing agreements for the Redman process.

Research Foundation at Lowell Textile. The Board of Trustees of Lowell Textile Institute, Lowell, Mass., has announced the establishment of the Lowell Textile Institute Research Foundation for

LABOR RULINGS

Employer's refusal to bargain with union which had not complied with non-communist affidavit requirements of LMRA was unfair labor practice, at least where employer did not give non-compliance as reason for such refusal. In this instance NLRB reversed earlier position.

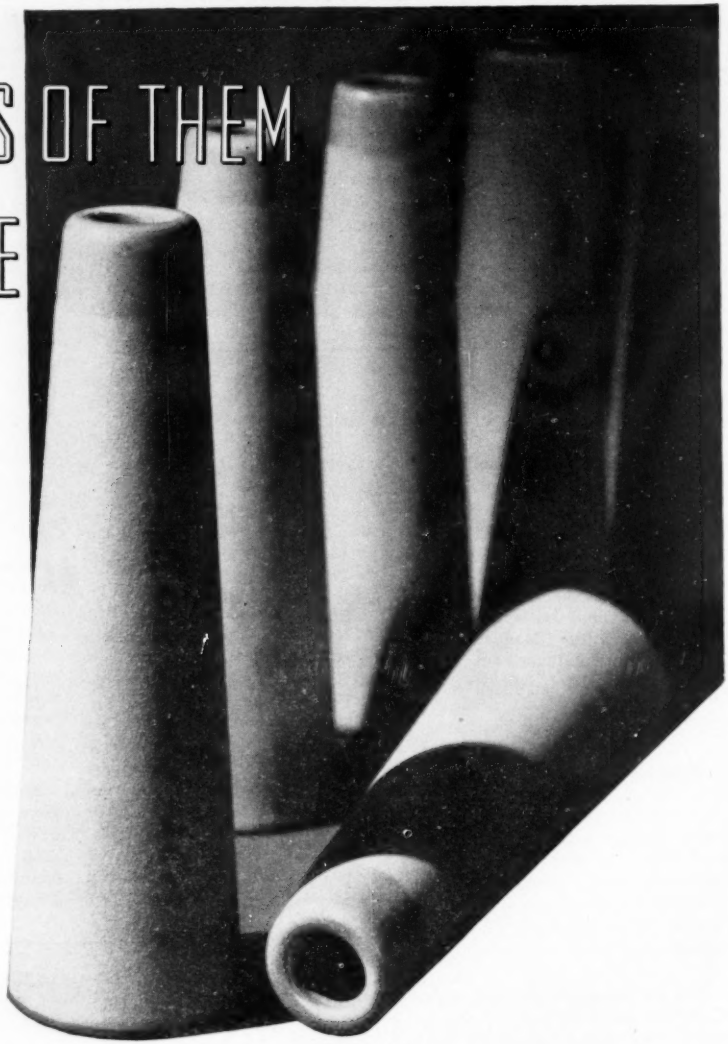
Employee evicted from company-owned house after discriminatory discharge is awarded reinstatement with back pay and right to occupy company house as soon as available. Company must pay difference in rent due employee, according to NLRB ruling.

A jail sentence of 30 days for offense committed away from work is not grounds for discharge because employee had reasonable excuse for his absence.

Concerted slowdown by employees following a wage reduction is an improper means of engaging in concerted activities and is not protected, NLRB rules in upholding their discharge by employer.

SERVING THE TEXTILE INDUSTRY SINCE 1899

MILLIONS OF THEM ALL ALIKE



A notable example of SONOCO research paralelling progress in textiles, is the development of the 3°30′ cone with the taper that solves high speed winding, magazine creeling and knitting machine delivery, for rayon, nylon and other filament yarns.

A Sonoco precision product of paper for one-time use

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

SONOCO SERVES THE WORLD'S PAPER CARRIERS
REG. U.S. PAT. OFF.

SWIMMING POOL SUIT

This test suit of "Dacron" polyester fiber was worn twice in a swimming pool, used 67 days, and washed once in a washing machine.

It was later dry cleaned and pressed, as pictured here, but went unpressed through 67 days' wear and two dips in a pool.

For more information about this resilient fiber, see the article beginning on page 123.

the purpose of encouraging and administering research sponsored by industry and government of the Institute.

Man-Made Fibers Gain. In the thirteen-year period from 1937 to 1949 consumption of cotton, wool, silk, linen, and synthetics increased 1,024,000,000 pounds or 22 per cent. 743,000,000 pounds of this increase, or 73 per cent, was in man-made fibers as compared to 281,000,000 pounds, or 27 per cent, in all other fibers, according to the Textile Economics Bureau, Inc.

QM Accelerated Wear Tests. Wear tests of uniforms and other equipment are being accelerated by the Army Quartermaster Board at Fort Lee, Va. Not content with what testing laboratories and machines indicate as to material ruggedness, the Fort Lee agency adds the personal factor. Soldiers testing fatigue uniforms crawl over cinder-packed railroads, slide down 45 degree cobblestone slopes, climb through barbed wire and up cargo nets. Wet weather equipment is tested in a controlled rain storm of three inches per hour.

Water is Exhaustible. Industrial requirements are frequently in excess of 300 lb of water per lb of finished product. Large users are power plants, rayon, linen, textiles, sugar, hydrogen, and steel industries. Hydrogen and synthetic rubber each require 2500 lb of water per lb of finished product; wool requires 500 lb; butadiene, 1200 lb; steel, 250 lb. With increased power demands and industries expanding their water needs, selection of economical water cooling equipment necessary for the industrial re-use of water is of vital importance. The "once-through" use of cooling water in industry is wasteful.

Cotton Fires. A booklet, titled "Survey on Causes and Prevention of Cotton Fires," has been published by the National Board of Fire Underwriters, 85 John Street, New York 7, N. Y. The survey includes practices in handling and processing up to manufacturing.

News in Brief

Labor Disputes and Wage Stabilization. A pamphlet, prepared by the National Association of Manufacturers as background information for members of Congress, traces step-by-step the developments which preceded the issuance on April 21 of an Executive Order which reconstituted the tri-partite Wage Stabilization Board as an 18-member body with authority to pass, not only on wage stabilization policy and interpretation, but on the entire range of labor-management disputes.

SHOOTING SWEATERS

Sweater jackets with improvements and many new features are manufactured by Kandel Knitting Mills, Portland, Oregon. Incorporated into jackets are finer points suggested by many trapshooters. Knit of closely woven stitches from 100% virgin wool, it carries shell pockets made of leather and set at an angle to eliminate sag.

IMPROVED
Emery Twitchell Oils For SANFORIZED FABRICS

Now...Emery Twitchell Oils 7240 and 7250 Give You 4 Extra Advantages

1. **IMPROVED COLOR and ODOR STABILITY...** will not yellow or stain fabrics. Cannot turn rancid on fabrics during storage.
2. **GREATER HEAT STABILITY...** Major improvement in heat stability gives maximum resistance to volatilization and decomposition during processing.
3. **INCREASED RESISTANCE TO SALTING OUT...** compatibility with finishing additives such as salts and other weighting agents is improved considerably.
4. **GREATER REWETTING ABILITY...** Faster rewetting increases fabric throughput . . . gives greater overall production efficiency during compression shrinkage. More uniform rewetting results in uniform shrinkage.

In addition to the major improvements listed above, these new Emery Twitchell Oils provide the following characteristics:

FIBER LUBRICATION—The excellent lubrication characteristics provide for easy and uniform rearrangement of the fibers during the preshrinking of fabrics. Prevent sticking at the shoes, enable increased processing efficiency.

REWETTING—High rewetting speeds for faster processing and uniform rewetting of fabrics. Treated fabrics retain rewetting properties indefinitely.

SOFTNESS—For various fabrics and finishes, Twitchell Oils provide the different degrees of softness required to meet specific needs.

CHOOSE THE TWITCHELL OIL WHICH BEST MEETS YOUR REQUIREMENTS

PRODUCT	FIBER LUBRICATION	REWETTING	SOFTNESS	STAINING
Twitchell 7250	Very Good	Fastest	Softest	None
Twitchell 7240	Excellent	Fast	Moderate	None
Twitchell 7231	Excellent	Medium	Slight	None

For a recommendation to fit your particular need, contact our Sales Service Department.

EMERY INDUSTRIES, INC.
Carew Tower • Cincinnati 2, Ohio

AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Symptom of the Times

STRANGE THINGS are happening in the District of Confusion. Take, for example, the situation regarding carpet and rug manufacturers. Sometime ago the government asked certain companies in this group to change their looms from carpets and rugs and convert them to duck production in the interest of national defense. It was explained that duck is essentially a military item and is not used in large quantities in civilian trade, and in times of emergency it is always necessary to expand duck production.

This was not an unprecedented view because the same thing had taken place in World War II. Rug manufacturers are as patriotic as any other section of the industry, and some of them did convert their looms. It was about that time that the sad story began.

The price control program, sometimes referred to as the Great Dilemma of 1951, was getting into full swing around about that time and about the same time the Chinese Communists did an about face and started running back up the peninsula. The combination of these events was too much for the market, and rug-duck manufacturers found the inventories beginning to accumulate and found a dearth of government bidding.

That was the picture when the carpet and rug manufacturers met a few weeks ago with the National Production Authority. The manufacturers explained to NPA representatives that many of them had converted their looms to duck at the request of the government and now the government seemed disinterested in buying the product. They asked whether they should continue duck production or whether they should convert their looms back to rug and carpet weaving.

The answer given them was that they should continue making duck and should sell it in the civilian market.

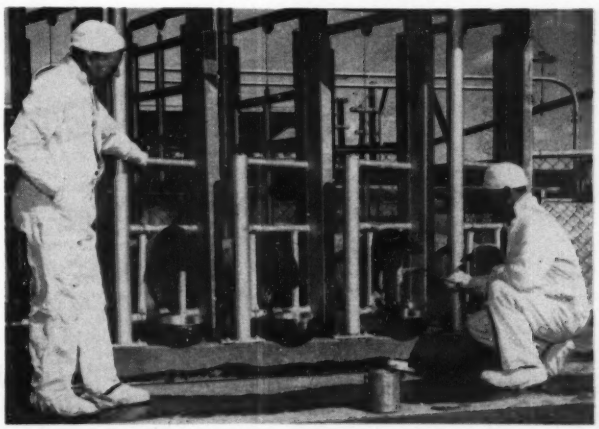
At that time the sale of 1,000 yards of any type cotton goods was creating a minor sensation on Worth Street, and NPA's suggestion appeared somewhat ironical.

The purpose of this little story is not to upbraid the government,

COUNTRY'S BEST FED SHEEP

These sheep, raised by Health Instruments Division of Hanford atomic energy works at Richland, Wash., are among the best fed of their race, according to General Electric Co. which operates the plant for the Atomic Energy Commission.

In gases discharged from an atomic plant there may be small amounts of radioactive iodine, some of which might be taken up by plants and eaten by animals. However, some 200 ewes in an experimental herd are fed balanced diets of alfalfa, grain, and food pellets containing varying amounts of radioactive iodine. Even the ewes getting the maximum dose show very little effect, it is reported.

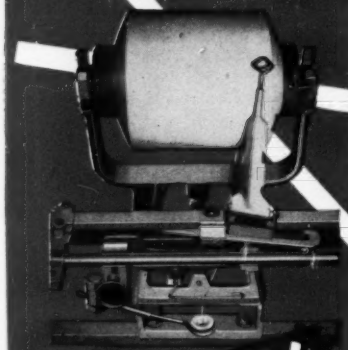


It's a PRODUCTION FACT

with the high-speed —HEADLESS PACKAGE— U.S. ACME —FACE DRIVE TWISTER—

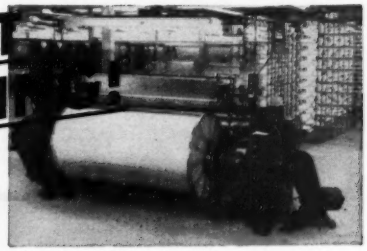
You can

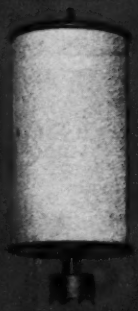
★ INCREASE PRODUCTION!
★ IMPROVE QUALITY!
★ ELIMINATE REDRAWING!
★ PRODUCE 1-lb. to 1½-lb. KNOTLESS PACKAGES!



NO FLYER!

DIRECT to AUTOMATIC QUILLING or HIGH SPEED WARPING WITHOUT REDRAWING!





PRODUCTION HIGHLIGHTS

★ Twist without flyer up to 15,000 R. P. M. with balanced bobbins!
★ Combination yarns, voiles, acetates and nylon up to 35 turns per inch!
★ 178,096 spindles now in production!

Yes, it's a fact—yarn twisted on the U. S. Acme Face Drive Twister goes DIRECT to the quilling or high speed warping operation without redrawing! It's a time and cost saver, a production booster that turns out top quality knotless packages from 1-lb. to 1½-lb. WRITE FOR COMPLETE INFORMATION . . .

U. S. TEXTILE MACHINE CO.
700 GILLIGAN ST.
SCRANTON 8, PENNA.

because no man can foresee the future of a war, and it is better to have a few million yards of duck in somebody's warehouse than to have soldiers without adequate equipment. One man's guess is usually as good as another, and six months ago no one could prophesy with any assurance whether or not Russia would enter the Korean War.

Perhaps the only moral of the story is that nobody is smart enough to "regulate" American industry. It is too complex. Regulation may be necessary at times, and there may be times in the life of the nation when the government must direct what type of goods is to be made by a given manufacturer. But, the truth of the matter is that many individual inequities must inevitably result.

Another moral to the story is that the rag and string business can be a pretty unhappy place to be at times.

Proof of the Pudding

With great fanfare and beating of the drums the TWUA launched a strike of considerable proportions on April 1. The strike was against selected organized southern mills. The issues were wages and fringe benefits. Just for the record, and mainly for historical purposes, it might be well for us to take a rather close look at what happened.

The Wage Stabilization Board had already ruled that wage rates could not be increased more than 10 per cent over January 15, 1951. In perhaps every instance, the companies involved had granted increases of approximately 8 per cent, leaving them a legal margin of approximately 2 per cent. The companies offered to settle the dispute for a 2 per cent increase to be granted immediately and an additional 4 per cent if and when approved by the Wage Stabilization Board. The union rejected, and the strike was on.

That the strike was poorly timed no one could doubt. It came at a time when the market was particularly slack and when many mills were already considering curtailment. From the first day it was apparent that staying away from work was not going to be popular with the rank and file of employees. Day by day more and more went back to work, until finally there came a day in early May when almost as many "strikers" were working as there were strikers striking. That was the day when the TWUA's policy committee decided to "suggest" that locals vote on whether or not they should send their employees back to work the following Monday morning.

All told, this was probably a very wise decision. The people were going back to work any way, so why not save what could be saved and tell them to go back? At any rate, they did go back to work and none of the companies involved had increased its original offer of 2 per cent immediately and 4 per cent if and when approved by the Wage Stabilization Board.

There was, of course, a sort of last-ditch effort made to save as much face as possible and to submit the dispute to conciliation, but this did not really mean very much because conciliators had been at work for weeks and it was fully recognized and publicly announced that the conciliation panel would not arbitrate and would not fact-find, and that it merely had the authority to try to bring the parties together.

One company's attitude was typical of the entire situation, when management said, in effect: "Our plant is running 100 per cent, and we do not have a strike. We have already given the maximum wage increase permitted by the government. If any dispute exists, it is between the union and the government. We have nothing to conciliate."

The dispute was marked by dissension, bitterness, and violence. The homes of non-striking employees were dynamited and strikers and non-strikers engaged in at least one gun battle. Looking at the situation historically, one might well ask, "What was gained?"

July 16-22—Textile portion, **Gordon Research Conferences,** sponsored by American Association for Advancement of Science, Colby Junior College, New London, N. H.

July 18-21—Thirty-second annual session, **Southern Industrial Relations Conference,** Blue Ridge, N. C.

Aug. 17—Summer outing, **Independent Association of Stocking Manufacturers,** Cedarbrook Country Club, Philadelphia, Pa.

Sept. 3-7—**American Chemical Society,** diamond jubilee, New York City.

September 10-14—Sixth **National Instrument Conference and Exhibit,** Sam Houston Coliseum, Houston, Texas.

Sept. 13-14—Fall meeting of the **Fiber Society,** Swampscott, Mass.

Oct. 4—Sixth annual meeting, **Carded Yarn Association, Inc.,** Carolina Hotel, Pinehurst, N. C.

Oct. 16-17—Annual conference, **Canadian Woolen & Knit Goods Manufacturers Association,** Hotel Fort Garry, Winnipeg, Manitoba, Canada.

Oct. 17-19—Annual convention, **American Association of Textile Chemists and Colorists,** Hotel Statler, New York, N. Y.

Oct. 18-19—Annual meeting, **North Carolina Cotton Manufacturers' Association,** Carolina Hotel, Pinehurst, N. C.

Nov. 8-9—Annual meeting, **Textile Research Institute,** New York, N. Y.

1952

Jan. 16-19—**Plant Maintenance Show,** Convention Hall, Philadelphia, Pa.

April 16-18—Annual convention, **Cotton Manufacturers Association of Georgia,** Boca Raton Hotel and Club, Boca Raton, Fla.

April 16-17—Spring meeting, **Fiber Society,** Clemson House, Clemson, S. C.

April 21-25—**Knitting & Allied Crafts Exposition,** Grand Central Palace, New York City.

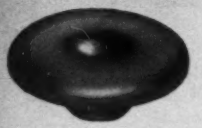
April 28-29—Annual Meeting, **National Association of Hosiery Manufacturers;** also the **Hosiery Industry Conference;** Claridge Hotel, Atlantic City, N. J.

May 15-17—Third annual convention, **American Cotton Manufacturers Institute, Inc.,** Haddon Hall Hotel, Atlantic City, N. J.

Oct. 6-11—Seventeenth **Southern Textile Exposition,** Textile Hall, Greenville, S. C.

REINER

Robert Reiner, Inc.
Weehawken, New Jersey



Reiner No. CR 1803
AlSiMag No. GE-19123

Reiner No. CR 1804
AlSiMag No. GE-19122

Reiner No. CR 1805
AlSiMag No. GE-19121

Reiner No. CR 1806
AlSiMag No. GU-8146-D

Reiner No. CR 1807
AlSiMag No. GE-21111

Reiner No. CR 1808
AlSiMag No. GE-22260

Reiner No. CR 1813
AlSiMag No. GE-22259

• All Reiner Guides stocked in AlSiMag 193

COCKER

Cocker Machine & Foundry Co.
Gastonia, N. C.

Guide No. GE-17204
Stocked in AlSiMag 192

Guide No. GE-18398
Stocked in AlSiMag 192

Guide No. GU-18462
Stocked in AlSiMag 193

Guide No. GE-22048
Stocked in AlSiMag 193

Guide No. GE-22784
Stocked in AlSiMag 192

Guide No. GE-22785
Stocked in AlSiMag 193

SIPP-EASTWOOD

Sipp-Eastwood Corporation
Paterson 4, New Jersey

Sipp-Eastwood
No. C-13081
AlSiMag No. GU-16656

Sipp-Eastwood
No. FG-1103
AlSiMag No. GE-17091

Sipp-Eastwood
No. C-13065
AlSiMag No. GU-10748

Sipp-Eastwood
No. C-13070
AlSiMag No. GU-10748-A

AlSiMag No. GE-14507-L
Not stocked by
Sipp-Eastwood

• All Sipp-Eastwood Guides stocked in AlSiMag 192

AlSiMag® *Guides* for Creeling and Warping

These AlSiMag Guides are carried in stock for immediate shipment by the respective companies except as noted. Any of these guides may be ordered from American Lava Corporation, Chattanooga 5, Tennessee, in any of the three AlSiMag materials for delivery from normal production schedules.

ADVANTAGES

ECONOMY. These AlSiMag guides have established new low cost records per pound of yarn processed. In some instances, the cost is as little as one-twentieth of former guide costs.

QUALITY. AlSiMag is a smooth, homogeneous material of extreme hardness.

UNIFORMITY. AlSiMag guides are uniform both physically and dimensionally.

BETTER YARN CONTROL. Smoothness, uniformity and perfected designs of AlSiMag guides give better yarn control.

MATERIALS

These AlSiMag guides are available in three materials:

ALSIMAG 192
(considered standard) A non-conductor of electricity. Hardness of 8 on Mohs' scale. Gives exceptionally long life on most requirements. Ivory color.

ALSIMAG 193
A conductor of electricity, used for dissipating static charges. Metallic gray color. Otherwise it is identical to AlSiMag 192.

ALSIMAG 491
Super hard, highly resistant to cracking, chipping. Great mechanical strength. Hardness of 9 on Mohs' scale. Its cost is justified where excessive wear is experienced or where satin finish must be maintained under severe conditions. Light blue color.

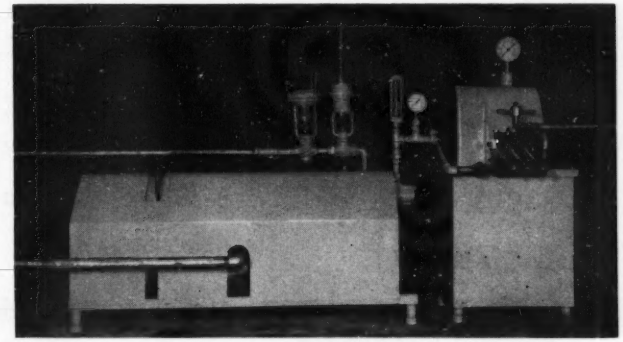
AMERICAN LAVA CORPORATION

50TH YEAR OF CERAMIC LEADERSHIP

CHATTANOOGA 5, TENNESSEE

Offices: METROPOLITAN AREA: 671 Broad St., Newark, N. J., Mitchell 2-8159 • CHICAGO, 228 North LaSalle St., Central 6-1721 • PHILADELPHIA, 1649 North Broad Street, Stevenson 4-2823 • LOS ANGELES, 232 South Hill Street, Mutual 9076 NEW ENGLAND, 38-B Brattle St., Cambridge, Mass., Kirkland 7-4498 • ST. LOUIS, 1123 Washington Ave., Garfield 4959

NEW Equipment AND MATERIALS



Scott & Williams Hydropulse unit. Heat exchanger is shown at left and high pressure homogenizer at right.

Continuous Flow of Uniform Size to Slashers Available with Hydropulse Unit

Continuous and uninterrupted preparation of warp sizing at a rate which approximates slasher box consumption is the principal advantage claimed for the Hydropulse, a device consisting of a heat exchanger and a high pressure homogenizer designed to work in tandem. Fresh size is continuously available as needed for application to the warp at the peak of its film-forming efficiency, according to the manufacturer.

Other advantages cited for the equipment are: No waste of sizing material; no varying dilution due to condensation of live steam; lower steam consumption; increased wearing efficiency; reduced shedding, hard size, and soft warps; no homogenizer downtime; unit is flexible and can be installed to meet requirements of any mill; low initial and operating costs; labor costs drastically reduced by continuous, almost automatic operation.

Refer to the accompanying sketch for principle of operation. **Slurry Tanks (1)** are installed in suitable location. (Cooking kettles with stirrers are frequently used for this purpose.) A metered amount of water is placed in these tanks to which is added that amount of warp lubricant capable of miscibility. To this solution the necessary number of bags of starch are added for required concentration.

Booster Pump (2) forces the cold mix through a **Heat Exchanger (3).** Here live steam is introduced through automatic temperature regulating valves. The cold mix is heated to the temperature required to effect complete swelling of the starch granules. The heated starch sludge is continuously forced into the **Homogenizer (4)** which completely ruptures the swollen starch granules to produce a continuous flow of homogenized size for the slashers.

While the Hydropulse is designed to operate continuously, it may be shut down by opening a single switch. The unit can be left standing without flushing or without loss of steam.

Scott & Williams Inc., Pioneer Division, Empire State Building, New York 1, N. Y. (Sold and serviced in the South by Southern Sizing Co., East Point, Ga.)

For additional data, request item G-601, using business reply card on page 214.

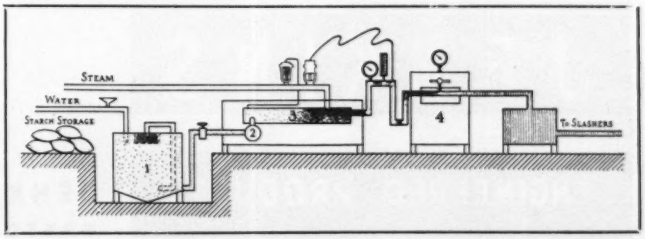
New Spooler Guide has 1/32" Polished Slot

A new AlSiMag traverse thread guide for the U. S. Acme high speed spooler is announced jointly by American Lava Corporation and U. S. Textile Machine Company.

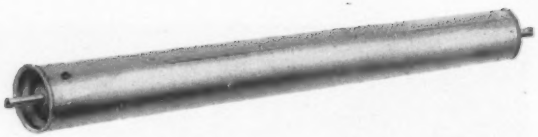
The polished slot of this guide is 1/32" wide. According to the announcement, it assures accurate control at the end of the traverse, creates a uniform wind, and results in a package of uniform weight. Extra long life, efficiency, and economy are claimed.

U. S. Textile Machine Company,

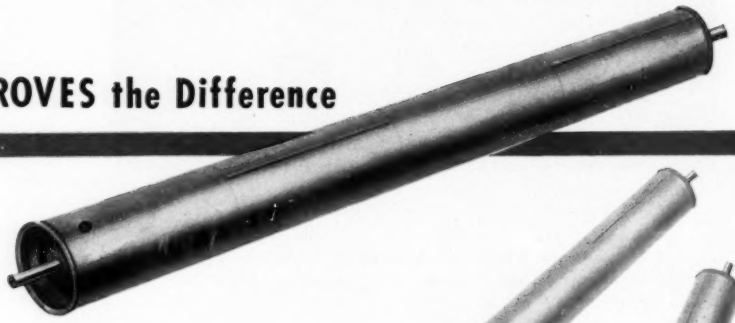
Sketch of typical Hydropulse installation for size preparation.



ALL "DYNAMICALLY BALANCED" CYLINDERS *ARE NOT* ALIKE



Performance PROVES the Difference



Not all spinning cylinders marked "dynamically balanced" give the perfect results you have a right to expect.

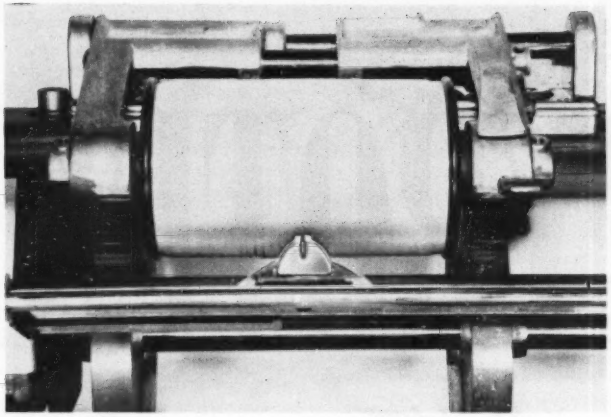
But you can be sure of getting the smoother operation and complete freedom from vibration a dynamically balanced cylinder should give, when you specify JENKINS DYNAMICALLY BALANCED CYLINDERS—engineered by the pioneer specialists in dynamic cylinder balancing. Every Jenkins cylinder is guaranteed.

Ask a Jenkins representative to show you *why* Jenkins Cylinders run smoother, last longer. Let him show you *how* they reduce wear throughout the frame . . . and assure more uniform yarn production and quality. Compare the performance of JENKINS DYNAMICALLY BALANCED CYLINDERS with any others—we believe you'll be convinced!

JENKINS

ENGINEERED PRODUCTS

JENKINS METAL SHOPS
GASTONIA, NORTH CAROLINA



AlSiMag traverse thread guide for U. S. Acme spooler (American Lava).

Scranton, Pa., carries these traverse thread guides in stock in AlSiMag 192 for immediate shipment. The same guides may be ordered from American Lava Corporation, Chattanooga 5, Tennessee for shipment after normal production intervals.

The guides can also be furnished by American Lava Corporation in AlSiMag 193 (same physical characteristics as 192 except that color is metallic gray and material is electrically conductive to assist in bleeding off static) or in AlSiMag 491 (super long wearing material, hardness of 9 on Mohs' scale, light blue in color).

Test samples in AlSiMag 192 or 193 are offered by the manufacturer without charge. Request samples of design No. GE-24476.

American Lava Corporation, Chattanooga 5, Tennessee.

For additional data, request item G-110, using business reply card on page 214.

Dull Finish for Nylon Hosiery

A nylon hosiery finish known as "Vibralon" is said to give nylons a lasting, rich dullness, satin-soft feel, extra warmth, and other qualities to improve appearance, comfort, and wear.

Vibralon-finished hosiery has better moisture-absorbing qualities, is never cold and clammy, and does not stick to the feet, the manufacturer claims. The stockings have an elastic firmness that makes them fit snugly, without bagging, binding, or bunching. Snag and pick resistance is increased and life of the hose is prolonged. It is said to be particularly effective on 15 denier monofilament hose.

The finish can be applied either by the conventional or the Dunn methods. It is said to be readily adapted and easily modified to produce the individual degree of dullness, body, and hand that a hosiery manufacturer desires.

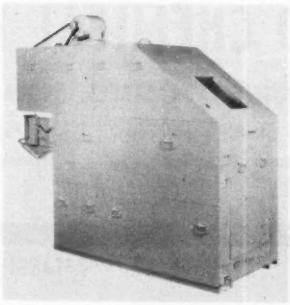
W. F. Fancourt Co., 516 Delaware Ave., Philadelphia 47, Pa.

For additional data, request item G-101, using business reply card on page 214.

24-inch Fiber Meter for Reuseable Waste

A 24" unit, designed especially for incorporation in the Fiber Meter Automatic Blending System (described in article beginning on page 110, TI for April, 1949), provides for the scientific proportioning of small percentages of reuseable waste throughout any fiber blend, according to the manufacturer. The unit can be added to systems now in operation or provided as part of new installations.

Fiber Meter for reuseable waste (Dodenhoff).



Basically, the 24" model is a smaller counterpart of the 36" Fiber Meter. Since waste, however, should properly be only a small percentage of the overall blend, the new unit is designed to weigh out increments of as little as 2 ounces of waste, while each of the larger Fiber Meters in the system accurately delivers a predetermined 8 to 32 ounces of one of the component fibers.

The unit, of course, becomes an integral and automatically-functioning part of any Fiber Meter automatic blending system into which it is incorporated. It is actuated by the same controls so that the waste is deposited on the conveyor belt simultaneously with the other components of the blend.

Thus, it is pointed out, the reuseable waste is distributed evenly through the total amount of stock being run, and the percentage used can be kept accurate and consistent from day-to-day and week-to-week.

W. D. Dodenhoff Co., Greenville, S. C.

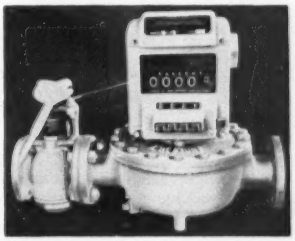
For additional data, request item G-109, using business reply card on page 214.

Automatic Liquid Meter for Textile Wet Processing

For automatic and accurate control of soap solutions, cold, warm, and hot water, etc., in textile plants, a new Auto-Stop liquid meter has been developed. Consisting of a register mounted on a liquid meter, coupled with a quick-closing valve, this device is inserted in the line

(Continued on page 181)

Auto-Stop liquid meter (Neptune).



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PYROTEX is efficient and economical in the scouring and dyeing of all fabrics and yarns.

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PYROTEX is free-rinsing.

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MANUFACTURER OF: STANTEX* OILS • STANDAPOL* • RETARDINE* • STANTEOSINE • STANDAFIN

*Reg. U. S. Pat. Off.

On Research

"I have read the article in your April issue by Leonard Smith regarding textile research in Europe and I am not entirely in agreement with him. It is true that we have some institutions in Europe for central textile research but so you have in the United States some very excellent institutions, amongst them Southern Regional Research Laboratory.

"A good many mills in Europe are doing excellent work but that is also the case in the States.

"I am very well acquainted with many mills in the States and also here in Europe and I visit them regularly. If I should draw a comparison with the work done in the States compared with the work done in Europe I should say that in the States the research work is put to more practical use than in Europe.

"In my opinion the central institutes in Europe are devoting too much of their time to scientific work, which is not the case in the States. The practical results from research in the States is showing greater results than in Europe, in my opinion."

DENMARK

Cotton Classing

"We have enjoyed reading your article 'Cotton Classing System' in April 1951 as prepared by your staff. Because of its practical value, we should like to have you send us 12 extra reprints of this article if you can."

JAMES M. FLACK
Executive VP
Textron Puerto Rico
Ponce, Puerto Rico

Cone-to-Cone: Looping

" . . . should very much like to have tear sheets or reprints covering 'Cone-to-Cone Winding Proves Profitable' and 'Looping Eliminated.' "

WILLIAM P. FLANDERS
M. Stanley Brown
New York

"Textile School Should Make Available . . . "

"Relative to your News in Brief comment (March '51, p 79) pertaining to 'the current trend toward more and more degree granting textile schools,' I, too, agree that our textile schools should make available programs of study leading to the diploma or certificate.

"Any institution of learning must, in the proper discharge of its responsibilities, consider the entire community which it serves. I feel that a diploma or certificate curriculum fulfills, in many cases, particular needs which do not require the more extensive program leading to a degree.

"The New Bedford Textile Institute, by including within its program the diploma and certificate curricula, in addition to its degree courses, has been able to make available to the textile community needed textile technicians and technologists. These non-degree programs continue to remain an integral part of the Institute's aim in meeting the needs of both the community and industry."

GEORGE WALKER
President
New Bedford Textile Institute

Wet Processors: Keep Your I on September TI

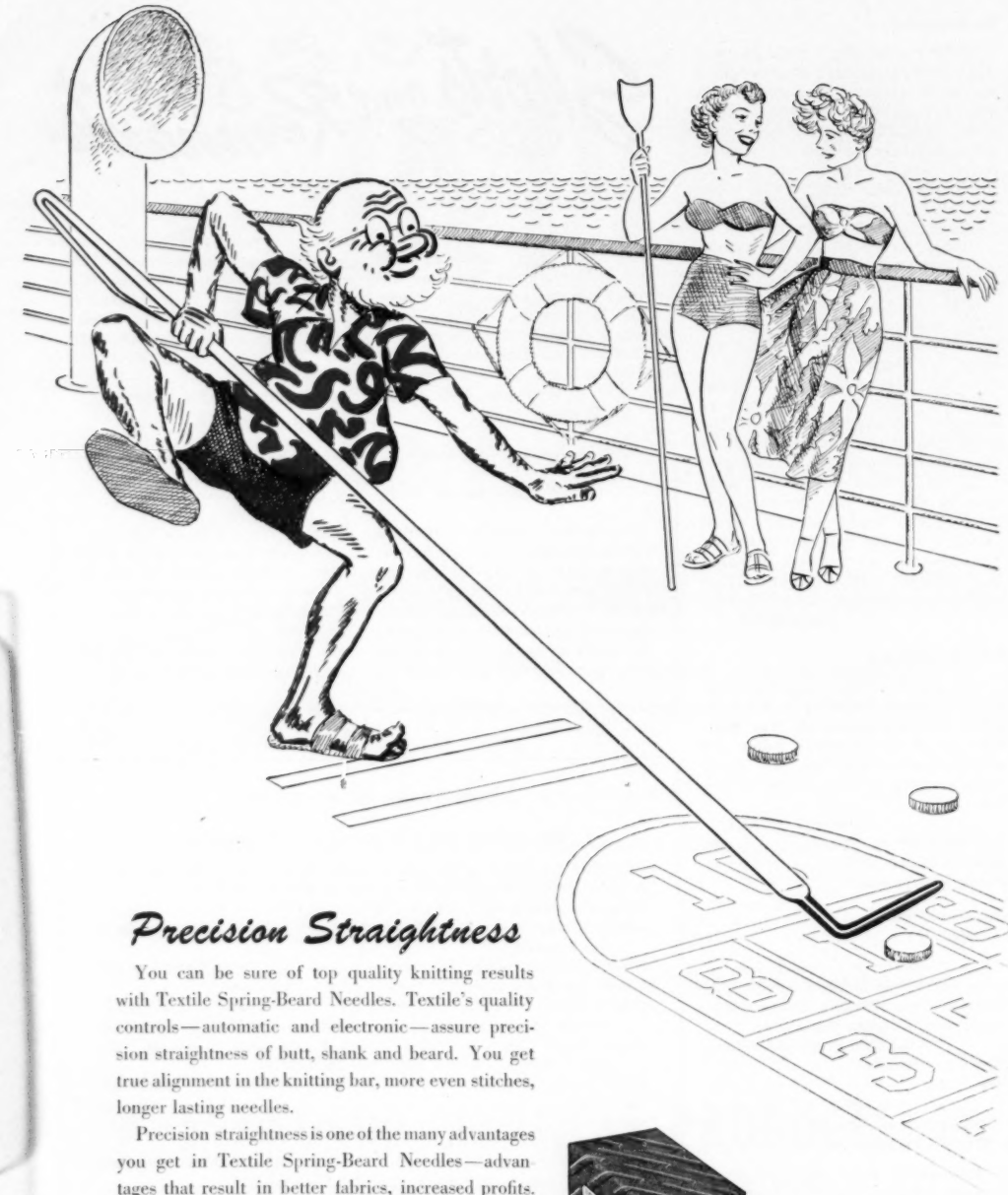
September TEXTILE INDUSTRIES will carry a special section for wet processors in the textile industry. Whether you are working in some phase of dyeing, bleaching, finishing, slashing, laboratory—or making goods to be processed by the wet method—you'll find much of interest; and it will be different.

Although each issue of the magazine contains articles of interest to wet processors, the September number will treat the subject in a big way.

If you are interested in wet processing, keep your I on TI.

THE STORY OF NO STORY
or
Why a Field Editor Volunteered for Foreign Duty

June 1. First heard about subject and talked to Party A about it.
August. Requested permission from Party B to get story.
February. Requested story directly from Party C.
January. Requested story of Party D and was told okeh as far as he was concerned.
March (early). Went to ..... and got story from Party E and Party F.
March (week later). Sent story to Party F for approval.
March (much later). Letter from Party F saying Party G of ..... advises they cannot approve story until after directors meeting.
March (even later still). Wrote Party F and Party H asking "how come?" when had been told could have story.
April (early). Letter from Party F saying no soap until board says okeh.
April (slightly later). Letter from Party H saying steps are being taken to clear story.
April (toward end). Letter from Party I saying board has given approval. Also visited mill to get okeh from Party J.
May (middle). Letter from Party F saying manuscript sent him was lost—to send another.
May (next day). Letter to Party F saying had sent one copy of story to him and another to Party E and did not have another copy. Told him if neither was found, would write it again—still had original notes.
May (three quarters). Lord knows how all this will end. I'm volunteering for infantry in Korea. If story comes through, send me a copy.



Precision Straightness

You can be sure of top quality knitting results with Textile Spring-Beard Needles. Textile's quality controls—automatic and electronic—assure precision straightness of butt, shank and beard. You get true alignment in the knitting bar, more even stitches, longer lasting needles.

Precision straightness is one of the many advantages you get in Textile Spring-Beard Needles—advantages that result in better fabrics, increased profits.

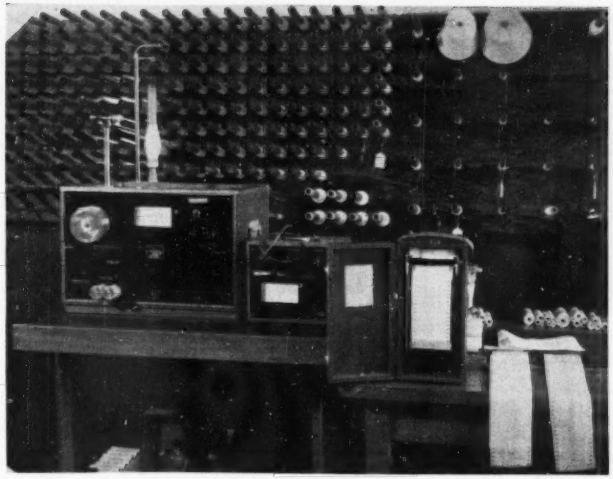
TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

Textile Industries
Vol. 115 • July, 1951



USTER TESTER IN THE SPINNING LAB. The integrator unit between the tester and the chart recorder was not available at the time the performance tests were made.

Summary of Test Results

TESTS of the Uster yarn evenness tester under slightly different atmospheric conditions at the Southern Regional Research Laboratory showed that minor fluctuations in conditions did not significantly affect the measurement of long-term variations in product uniformity. Minor fluctuations in conditions affected the measurement of short-term variations. Reading percentages directly from the chart produced good results.

Figure Evenness by Machine or Planimeter?

By **RALPH A. RUSCA**
*Southern Regional Research Laboratory**

EXCLUSIVE

WARTIME buying on specifications emphasized the need in the textile industry for accurate and rapid methods of measuring the physical properties of textile products during and after their manufacture. Especially has the determination of the uniformity of sliver, roving, and yarn received attention. As a result of this growing need, a number of new testing devices have appeared on the market and others are in the developmental stage.

One such device in commercial use is the Uster yarn evenness tester[2] [3], which has become available so recently that its performance has not been fully evaluated. The Southern Regional Research Laboratory, in connection with its research program on cotton utilization, operates a Uster tester, and is conducting a general investigation of its performance and the factors affecting performance. One phase of the evaluation is the effect of atmospheric conditions on the operation of the tester. Tests were conducted to determine whether closely controlled atmospheric conditions are required or whether the tester performs with sufficient accuracy under atmospheric conditions prevailing in the Laboratory's experimental textile mill.

Description of Tester. The Uster tester is equipped with two electronic oscillators. One operates at a fixed frequency; the other at a frequency which varies in accordance with the mass of the textile product being passed through the external capacitor plates. The outputs of the two oscillators are converted, detected, and amplified by conventional radio receiver techniques. A sensitive milliammeter visually indicates the product uniformity, and an external galvanometer records variations on a strip chart calibrated in percentages.

In operating this type of tester,

[2]The mention of trade products does not imply their endorsement by the Department of Agriculture over similar products not mentioned.

[3]Uster Tester Discussed at Gastonia Quality Control Meet, Staff Report, TEXTILE INDUSTRIES, p. 90, Nov., 1950.

*One of the laboratories of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Department of Agriculture.

TABLE 1

TEST CONDITIONS FOR DETERMINING PRODUCT UNIFORMITY[1]

Product	Instrument			Chart Speed	Sample Length	Number of Samples
	Switch	Scale	Feed			
		%	yds./ min.	ins./ min.	yds.	
Sliver						
Long-term variations	Normal	25	4	2	120	2
Short-term variations	Normal	12.5	1	4	15	2
Roving						
Long-term variations	Inert	25	8	2	80	24
Short-term variations	Normal	50	1	4	5	24
Yarn						
Long-term variations	Inert	25	8	2	80	24
Short-term variations	Normal	100	1	4	5	24

[1]Duplicated for fiber laboratory atmospheric conditions and spinning laboratory atmospheric conditions.

TABLE 2

METHODS OF EVALUATING THE GRAPHIC RECORD

Product	Polar Planimeter			
	Length of chart measured per observation	No. of observations per sample	No. of samples	Total length of chart measured
	(inches)			(inches)
Sliver				
Long-term variations	4	9	2	72
Short-term variations	4	9	2	72
Roving				
Long-term variations	4	3	24	288
Short-term variations	4	3	24	288
Yarn				
Long-term variations	4	3	24	288
Short-term variations	4	3	24	288
Percentage				
Sliver				
Long-term variations	1	36	2	72
Short-term variations	1	36	2	72
Roving				
Long-term variations	1	12	24	288
Short-term variations	1	12	24	288
Yarn				
Long-term variations	1	12	24	288
Short-term variations	1	12	24	288

atmospheric conditions are particularly important. It is well known that moisture and temperature affect the fundamental frequency of an electronic oscillator, especially when crystal control is not used. When cotton is the textile product being tested, the influence of humidity on this highly hygroscopic material passing through the external capacitor may also affect the oscillator frequency.

Test Conditions. Tests were conducted under the atmospheric conditions existing in the fiber testing and spinning laboratories of the Southern Laboratory. In the fiber laboratory a temperature of 70 F ± 0.5° and a relative humidity of 65 per cent ± 1 per cent were maintained. In the spinning laboratory, less closely controlled conditions of 75 F ± 2° temperature, and 60 per cent ± 3 per cent relative humidity prevailed. Although the spinning laboratory did not maintain the exact conditions usually found in textile mills, wider tolerances could not have been used without disturbing other lines of research in progress in the laboratory. Nevertheless, the results are indicative of what would occur under more representative conditions. Any response of the Uster tester to slight variations of atmospheric conditions would be expected to be correspondingly greater under more widely fluctuating conditions.

The cotton selected for the study was a commercial variety, 1-1/16-inch staple, SM grade, which was carefully hand-blended and then processed through a conventional picker line into 60-grain drawing sliver, 2.5 hank roving, and 16s yarn.

Forty-eight bobbins, divided into paired samples from the top and bottom of the roving creel, supplied the stock for the roving and yarn. Tests on the drawing sliver were made on paired 5-pound samples. All samples were conditioned 72 hours prior to testing. The sliver was removed from the cans to permit more thorough exposure to the atmosphere.

Speeds, feeds, and scale settings of the tester were arbitrarily selected on the basis of previous experience with the uniformity of the particular lot of sliver, roving, and yarn being measured. The test conditions are summarized in Table 1.

Statistical Methods. Two methods were used to treat statistically the recorded strip charts of the Uster machine: one, by means of a polar planimeter, and the other, by means of the conventional method of plotting the high and low percentage points.

A planimeter was used to measure the total area under the chart curves for each sample, and from this area a mean (average) line was established[4]. Then the areas above and below the mean line were determined, and the average linear deviation was calculated. Nine 4-inch long increments of chart per sample of sliver, and three 4-inch long increments of chart per sample of roving and of yarn were evaluated. These details are summarized in Table 2.

With the percentage method, the highest and lowest variations from the mean line on the chart were read directly from each 1-inch long increment of chart, and the uniformity of the sample was calculated in terms of average maximum deviation. A total of 72 inches of chart for the sliver, and 288 inches of chart each for the roving and the yarn were tabulated.

These two methods of evaluation were applied to determine whether or not the planimeter,

[4]Planimeter Provides an Easy Method for the Evaluation of Evenness Tests, Staff Prepared, TEXTILE INDUSTRIES, p. 92, Jan., 1949.

TABLE 3

RESULTS WITH THE POPLAR PLANIMETER METHOD OF CHART EVALUATION

Product	Fiber Laboratory			Spinning Laboratory			Significance of the difference between Average Linear Deviations—Fiber and Spinning Laboratories	
	Average Linear Deviation	Standard Deviation	Coef. of Variability	Average Linear Deviation	Standard Deviation	Coef of Variability		
	%		%	%		%	P = .05	P = .01
Sliver								
Long-term variations	4.39	.58	13.20	3.93	.51	12.97	Not significant	Not significant
Short-term variations	2.34	.42	17.94	1.35	.14	10.39	Significant	Not significant
Roving								
Long-term variations	4.34	.74	17.05	4.03	.42	10.43	Not significant	Not significant
Short-term variations	7.63	.81	10.61	6.90	.60	8.69	Not significant	Not significant
Yarn								
Long-term variations	5.39	.48	8.90	5.39	.78	14.47	Not significant	Not significant
Short-term variations	9.87	.93	9.42	9.94	1.21	12.18	Not significant	Not significant

TABLE 4

RESULTS WITH THE PERCENTAGE METHOD OF CHART EVALUATION

Product	Fiber Laboratory			Spinning Laboratory			Significance of the difference between Average Maximum Deviations—Fiber and Spinning Laboratories	
	Average Maximum Deviation	Standard Deviation	Coef. of Variability	Average Maximum Deviation	Standard Deviation	Coef. of Variability		
	%		%	%		%	P = .05	P = .01
Sliver								
Long-term variations	20.50	4.23	20.63	19.09	4.05	21.21	Not significant	Not significant
Short-term variations	8.91	2.90	32.54	5.32	1.63	30.64	Significant	Significant
Roving								
Long-term variations	18.59	2.89	15.54	17.58	1.77	10.07	Not significant	Not significant
Short-term variations	38.13	3.31	8.68	33.48	2.77	8.27	Significant	Not significant
Yarn								
Long-term variations	21.73	2.20	10.12	22.70	2.02	8.98	Not significant	Not significant
Short-term variations	69.22	5.94	8.58	65.71	6.64	10.11	Not significant	Not significant

which was found to keep 8 to 10 operators measuring the charts, had sufficient advantages to warrant its use in preference to the percentage method, which requires only one operator to read values from the chart as fast as they are recorded.

Both "long-term" and "short-term" variations in the uniformity of the textile products were investigated. Long-term variations refer to cyclic or wave-like periods (which may be from a few inches to many yards in length) of increasing or decreasing mass which are superimposed on the short-term, or brief period, variations. An example of these types of nonuniformities may be seen on the portion of the Uster chart reproduced here.

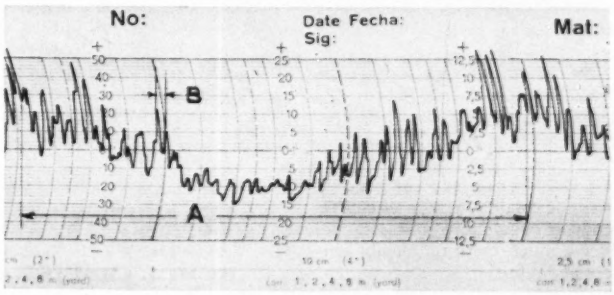
Results. Data obtained by the planimeter and percentage techniques are given in Tables 3 and 4. The significance of the differences between the means of the tests made under the atmospheric conditions of the two laboratories are indicated at probability levels of 5 per cent and 1 per cent.

The data show that the differences in relative humidity and temperature covered in these tests had some effect on measurements of short-term variations in the uniformity of cotton sliver; had doubtful effect on measurements of roving; and had no effect on measurements of yarn. No significant effect on measurements of long-term variations are revealed, possibly because the tester responded less readily to nonuniformities when it was operated on the "inertia" setting recommended by the manufacturer for determining such variations. (The inertia setting uses a resistance-capacitance time-constant circuit which functions electrically to make the tester less sensitive to variations in the product being measured.)

The effect of atmospheric conditions on measurements of uniformity seems to have been influenced by the degree of openness of the textile product. At the 5 per cent probability level, both the planimeter and percentage methods of

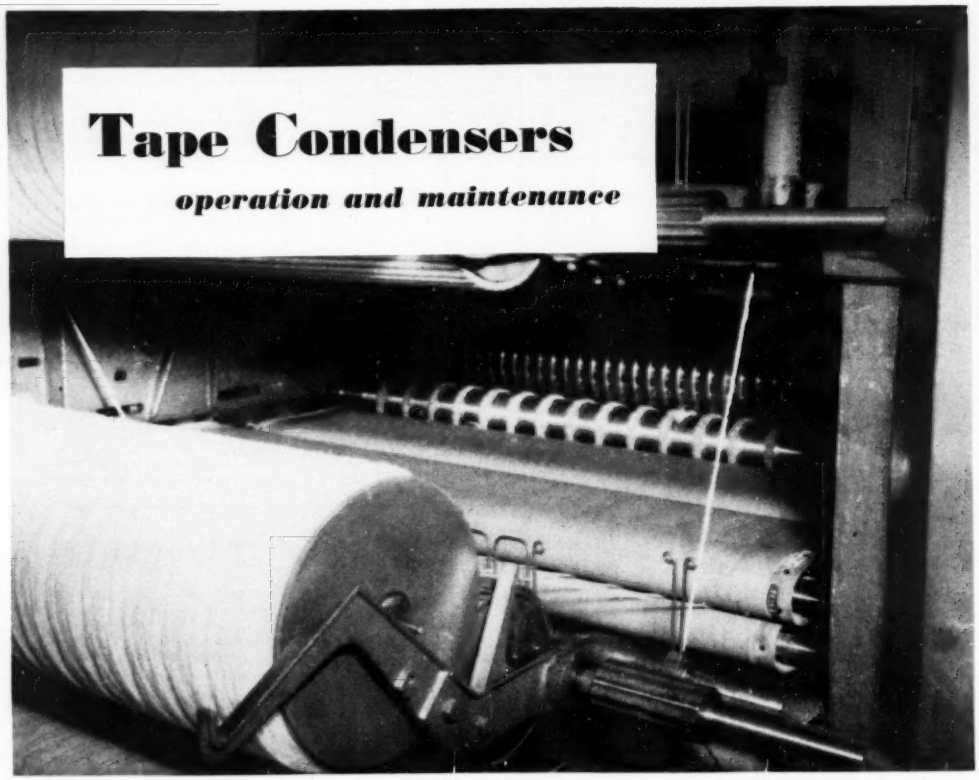
(*Continued on page 178*)

RECORDED CHART from yarn evenness tester showing (A) long-term variations and (B) short-term variations.



Tape Condensers

operation and maintenance



Drafts, dividing roll settings, and tape selection are discussed in this, the first of a two-part article.

THE TAPE CONDENSER brought to this country from Europe in the early twenties has almost entirely supplanted the ring condenser. Because of its greater condensing capacity and the large number of roving ends that it will utilize successfully, its potential production is limited only by the quality of and the amount of stock that the preceding sections of a woolen card will satisfactorily comb out.

The single-rub tape condenser, if the eccentrics are set at the longest practical stroke, will give approximately 40 to 50 per cent more condensing than a double-rub ring condenser. The double-rub tape condenser will, of course, produce even more and also deliver a much more uniformly condensed roving.

Drafts at the Condenser. Any remarks about the operation of a condenser should begin with the drafting of the web. Between the doffer and dividing rolls the web should be relaxed and free of strain. Any tension here or at any point on the way to the winding drum adversely affects the spinning.

Where the ribbons leave the tapes to enter the rub aprons, the webs should arch up loosely like a goose neck to a point level with the bite of the rub aprons. If the webs are too loose they follow the tapes and occasionally catch between tapes and contacting aprons, causing excessive end breakage. If the webs hug the apron closely the draft is excessive.

On double-rub condensers, if the partially condensed roving quivers and vibrates slightly between the two sets of aprons the draft is slack. If the ends appear taut, the carder can gain 2½ per cent of draft by making a one tooth change on the draft gears. The benefit of this drafting is lost, however, if the roving is wound onto the spool under excessive tension. There should be just enough tension to wind a fairly compact spool.

The modern tape condenser is fitted with a grooved expansion pulley on each spool drum for fine

Part 1

EXCLUSIVE

By W. J. CROFTS

adjustments of the draft to the spools. On old condensers without this improvement thin strips of canvas cloth glued to the flat pulleys are excellent for close drafting.

To check the tension of the roving, lift each spool to slacken the ends; then watch the time required for the ends to regain their normal winding position.

The speed of the traverse of the guide fingers governs the build of each roving end. For one complete revolution of a 5-inch spool drum the traverse should make one complete vibration or journey back and forth. To put it another way, for every 16 inches of roving delivered the traverse should make one complete trip back and forth. This or a somewhat higher speed of the traverse knits and binds each end section of the spool together, permitting a loose winding of the roving.

Straight-fibered stocks draft slacker than the fine, curly wool fibers at the same draft speeds. Because of the curl or crimp, wool fibers have a strong tendency to contract after the combing action of carding.

Well-moistened stocks are limp and relaxed and draft slacker than dry stocks. This may be explained by the example that a cotton clothesline left out in the weather hangs limp when wet and becomes taut when dried out by the sun. Moisture is an aid to condensing and sets the twist more firmly in the spinning.

Because of the different characteristics of the many fibers used in making woolen yarns, the drafts from the doffer all the way to the spool drums should be checked by a capable operator at the start of each lot and at other regular intervals.

A certain blend is not spinning well. Investigation reveals that there is no serious end breakage on

Regarding the Finisher Doffer and Comb

No discussion of condensing is complete without consideration of the finisher doffer and comb.

The Doffer. The condition and adjustment of the doffer are very important. If it is out of true on one side, that side of the card will produce roving lighter in weight than that from the other side of the machine. If it is larger in circumference at the center, then the center of card will produce roving heavier than that from the sides. Grinding the surface of the card wire will not remedy these conditions; the only sure cure is a precision grinding of the metal surface of the doffer.

Every observant carder will notice that immediately after stripping, when the wire is empty, the web comes off the doffer smooth and free of waves. A dickey roll with its wire points set into the doffer about 3/32 of an inch will prolong this desirable condition and maintain more uniform strength of the yarns between strippings of the card. The author prefers a No. 32 knee wire 1¼ inches long with a cloth foundation.

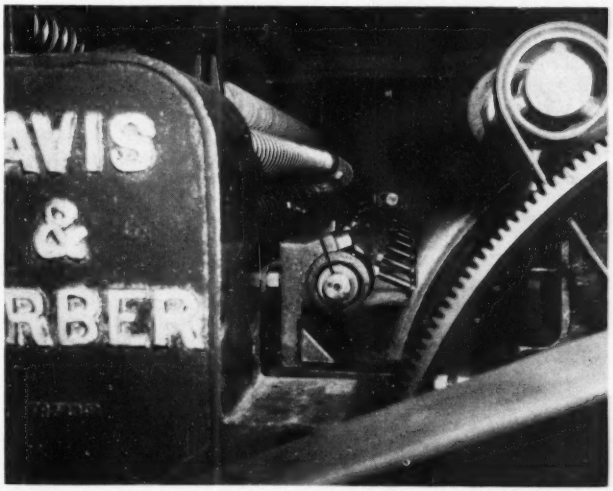
The doffer wire should be of standard pitch and length, the size being a matter of choice; however, No. 35 wire is most generally used. Care should be taken to inspect this clothing to be sure it is of standard quality, and the surface after grinding should feel as smooth as glass to the touch. The doffer should be set to the cylinder with a No. 26 card gauge.

The Comb. A smooth running, perfectly balanced comb that will stand continuous speeds of 1100 rpm is desirable. A blade with twelve teeth per inch will accommodate a wide range of fibers.

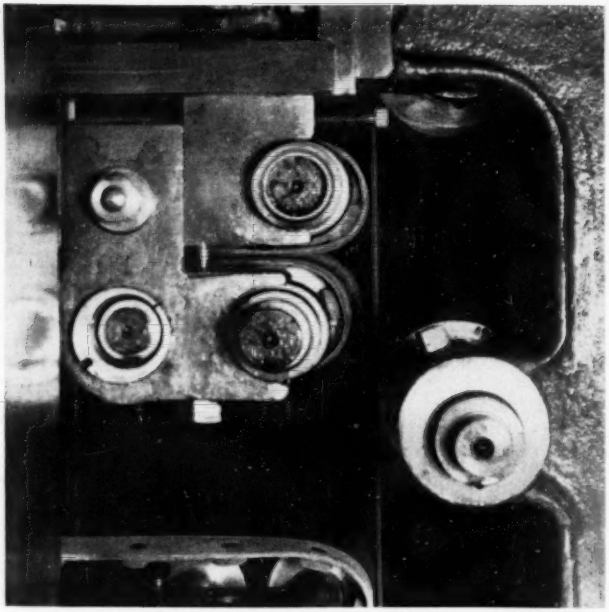
It is most important that the up and down strokes at the teeth be at least 1¾ inches in length. This stroke is satisfactory for the longest fibers and also the very short, fine-fibered stocks. Running the stroke as high as possible with the teeth striking the web with just enough force to loosen the fibers from the doffer wire helps in the production of a smoother web. Attention to this detail is important.

In order to obtain optimum performance the blade must be properly installed—a job for a skilled mechanic. Lay the barrel on a flat, true surface such as a floor grinder lathe and with the fingers resting on this true surface place the new blade in position, teeth up. Mark and drill one hole; fasten securely with a pin; then scribe for all the holes. After drilling, the holes in the blade must match perfectly the holes in the fingers of the comb.

The comb box and blade should be set level and at a point so that web from doffer to dividing rolls is level.



A SMOOTH WEB is obtained when the web passes between doffer comb and divider rolls in a horizontal attitude. A sloping web is injurious to quality. Note dickey roll at upper right.



WHERE RIBBONS leave the tapes to enter the rub aprons, the webs should arch up loosely like a goose neck to a point level with the bite of the rub aprons. Attenuation and subsequent thin, weak spots in the roving are thereby avoided.

the spool, but there is excessive breakage during the drafting. The carder checks his drafts and finds that by changing draft gears one tooth he can slacken the web 2 per cent at the doffer, 2.5 per cent at delivery point of the tapes, 2.5 per cent between the two sets of rub aprons, and another 2 per cent on the spool winding. This adds up to 9 per cent and means that on every 100 inches of roving there is 9 inches less of drafting or stretching of the roving—often the difference between bad spinning and good spinning on the mule or frame.

Setting the Dividing Rolls. The clearance between the dividing rolls should be equal to the thickness of a No. 26 card gauge, and the edges of the rolls should be in perfect alignment. Setting the rolls closer together serves no good purpose, the important factor for a precision dividing of the web being the use of tapes that fill all the space in the grooves.

Tape Selection. It is surprising what an improvement in roving quality can be made by using tapes of the right width for the job at hand.

When tapes were first introduced in this country, it was quite a general mistake to use too many tapes for the width of the card. Tapes .583 inches wide are good for average work, and this is the size most commonly used today. With this size tape 96 good ends are produced on a 60-inch card, or four 24-end spools.

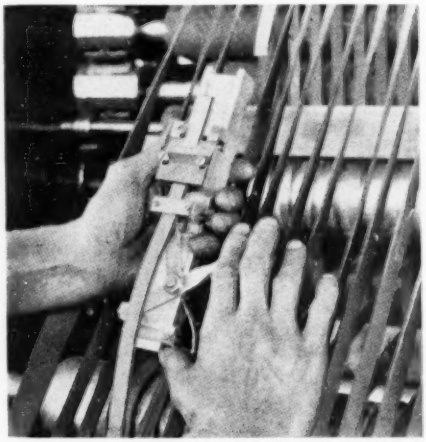
On 3 run yarns and finer, however, 120 ends per 60-inch card are desirable. The web on a 5 run yarn becomes dangerously thin, tender, and easily torn if a .583" tape is used. A narrow tape concentrates the fibers in a more compact space, giving the fibers and web greater cohesion. This makes for smoother yarn with increased strength and better running qualities.

Each mill must determine the width of tape best suited to its needs. Heavy yarns made from 100 per cent long-fibered stocks can best be made on tapes approximately .730" wide, or 72 good ends per 60-inch wide card. Tapes .583" wide will make the heaviest yarns satisfactorily, provided there is not too much long fiber in the blend, and will also make 5 run yarns if the blends are excellent. However, when making fine yarns from borderline blends the narrower tape is a decided advantage and a factor in successful carding. Using too many tapes on the heavier yarns crowds too many fibers into the 60-inch space, creating deep, wavy wrinkles that make wavy roving ends and result in widely fluctuating weights.

The wider tapes have greater

(*Continued on page* 178)

Courtesy, Davis & Furber Machine Co.



SLACK TAPES make light ends; the feathery edges of their webs cause them to wind around the dividing rolls; end breakage increases. They should be cut and shortened so that they will be under the same tension as the rest of the set.

Half-Hose Handling Cost Reduced

with conveyor installation in packaging department

Staff Prepared

Stamping, labeling, folding, and packaging operations performed at saving of one cent per dozen pairs of circular hose processed

EXCLUSIVE

A CONVEYOR belt in operation at The Alden mills, New Orleans, La., has been used effectively to save one cent per dozen pairs of circular knit half-hose packaged. Thirteen operatives are employed at the conveyor belt, and approximately 300 dozen pairs per hour are stamped with a transfer, a brand name sticker is applied, and they are folded and packed in boxes at the end of the table.

In this instance, operatives are paid on a piece work basis to work at the continuous conveyor belt and table which was made by Textile Trimming and Boarding Machine Company. The conveyor belt is approximately 42 feet long, providing ample space for the operatives to perform the operations as the socks travel continuously along the table.

A pressure sensitive tape is used to hold each dozen hose in one package. The type of tape formerly used could not be applied quickly, and production was impeded because of the additional time required to apply the tape. An operative at the end of the table packs the hose in lots of five dozen pairs to each box.

Production figures at the conveyor table are approximately as follows: 300 dozen per hour stamped; 100 dozen per hour folded; 2400 dozen per day basis of production. Formerly the operatives in this department handled 15-20 dozen pairs per hour, on a 2400 dozen/day basis, and with an equivalent number of operatives on the job.

If no transfers were applied, and if no stickers were used, the table would not be of much help, and there would be no savings, according to an official at Alden.

THE CONVEYOR is about 42 feet long and provides ample space for the operatives to stamp the socks with a transfer, apply a brand name sticker, fold, and pack the hose in boxes at the end.

FOLDING and packing are done at the end of the table. A pressure sensitive tape is used in packaging because of the additional time required to apply the type of tape formerly utilized.

THE Supervisor AND HIS Responsibilities

*Article 2**

EXCLUSIVE

By RAMON PARKS

Employee Relations

IN A CERTAIN mill an assistant supervisor job was open. Two or three section men were considered for the position, and when the job was finally filled the man with the least seniority and technical experience and knowledge was the one chosen.

One of the men was a good technical man. He had taken at least two or three home study courses. Naturally he was very much disappointed that he did not get the job, and he went to the overseer and asked the reasons why he was passed up.

This overseer was very frank and came to the point rather quickly. He said, "Ed, you are a good section man so far as your ability to keep the machines in good running condition; but you know that you do not get along so well with the *few* people on your section, so I could not very well put you over *all* the people in the room."

This same thing has happened many times when superintendents were faced with the selection of an overseer for a department. It is fine to have technical knowledge and ability; in fact a foreman has a lot in his favor when he is so equipped; but of greater importance is his ability to get along with his help.

A good overseer can get any number of men with technical ability to keep the machinery in good repair, but since he is the one who must deal with all kinds of personalities which make up his staff of employees, he must have the quality of leadership ability which will inspire the employees to give of their best efforts in performing their duties.

Qualities of Leadership. There are so many qualities which go into the making of leadership ability that it is difficult to list them in order of importance. We think that *friendliness* is high on the list. The overseer who goes about the room with a *smile* on his face, a cheerful greeting to everyone as he passes them, especially early in the morning, or when he meets them on the street after work hours, gives his employees a lift and a feeling that this is not such a bad world after all.

The overseer who will stop to listen to the sweeper's hard luck story about his sick wife, or the section man's bragging on the antics of his pet dog, or the weaver's story of his weekend fishing trip has made for himself friends who will stick by him when the going gets tough.

Another good quality is *courtesy*. Every man likes to think of himself and his work as being important. Little acts of courtesy on the part of the overseer can give even the lowest paid employee this feeling of importance. Suppose the sweeper's wife *is* sick. Frequent inquiry by the overseer as to her condition, voluntarily offering to let him off for a few minutes to go see about her, or even an offer of more substantial aid if necessary will be repaid many times over through loyal service by the sweeper and by his fellow employees when he spreads the news around.

When an employee brings a friend in looking for work, the supervisor should treat him with every courtesy—even if he has to turn down the application. After all it is a compliment for an employee to try to get a friend or member of his family on in the same department in which he works, and the overseer should consider it as such.

Consistency is another trait that the overseer should try to cultivate. If a man expects the bank to honor his checks it is necessary for him to write his signa-

*Article 1 of this 11-part series appeared in the June issue. It dealt with "Hiring and Training."

ture the same way each time. It is just as necessary that the supervisor practice consistency in his dealings with his employees. We realize that this is hard to do sometimes, but in the long run it pays—and saves a lot of headaches. If one person is allowed a certain privilege, the overseer can rest assured that the rest of the employees will find out about it, and soon he is deluged with requests for similar favors.

Adopting Rules. Be very slow to make rules and regulations, especially when upset by some occurrence, which, for the moment, may have proved embarrassing. If it appears to be necessary to make some new rule, take plenty of time to think it through. Write it out. Show it to your assistants. Get their reaction. Talk it over with your superintendent. Try to foresee any possible difficulties you might have in enforcing the rule. Is there an existing regulation, which if followed would have prevented the occurrence of the trouble? Will an educational campaign do more good than the rule you are about to make?

Some rules and regulations are, of course, necessary in any well-ordered plant, but it has been our experience that the fewer the rules the better. Any rules that have been made, however, should be enforced fairly and *consistently*.

Make few promises, but keep every promise made. Some employees have a way of "reading" a promise into something that you may have said in a conversation with them, so be careful to guard against any statements that they might construe as a promise.

Suppose that one of your young men has been sold on subscribing to a home-study course. He will probably come to you, as his overseer, and ask about his chances for promotion in the event he signs up for this course and completes it successfully. Naturally an overseer likes to see the young men in his department prepare themselves for advancement, but to make definite commitments, or even half-way promises to them if they take certain training, is extremely risky business. Circumstances beyond the control of the overseer might make it impossible for him to make good his promise.

Another quality that is necessary if the overseer is to get along with his employees is *self-control*. There is perhaps nothing that can ruin an overseer quicker than a bad temper. The overseer who is always "flying off the handle" has lost half the battle before he starts. Sometimes a disgruntled employee will storm into the office as though he were going to wreck the place. Because he is so angry he expects the overseer to get "riled up" and refuse his request, whatever it may be, so he is all set for a good scrap and a grievance for the shop committee.

If the foreman will exercise just a little self-control, invite the employee to be seated and ask him, in a very pleasant tone of voice, to tell him what the trouble is, the chances are that the employee will be so surprised at this kind of reception that he will actually tone down his complaint. Getting all the facts relating to a grievance will certainly be of more help in the solution of this kind of problem than a show of temper and a lot of snorting and name calling.

We have known supervisors to lose their temper and "raise a lot of sand" because some new employee spoiled a lot of work or allowed a machine to break down, when an impartial investigation would have revealed that the foreman, himself, was at fault through improper or incomplete instructions to the new operative.

We have observed some labor leaders who presented a grievance which did not have much of a leg to stand on in the first place, but who tried to make up for lack of valid grounds by a lot of shaking of the finger and a blustering attitude. The overseer or superintendent who can keep his head under such circumstances, answer criticism or request facts in a calm tone of voice, has a tremendous advantage over those who assume a belligerent attitude.

We doubt that any overseer was ever much of a success who did not have a good measure of *self-confidence*. We do not mean the you-can-not-tell-me-anything, or the know-it-all attitude, which is a bad trait in any person, but a quiet air of confidence that is acquired by experience and knowledge and faith in his own ability to handle any situation which may arise. The employees respect this kind of overseer and are proud to point him out as their boss. The superintendent respects him, also, and does not expect this sort of overseer to be a "yes man."

We cannot help but recognize that the overseer's *morals* will have a lot to do with his ability to get along with his employees. No matter how well the foreman thinks that his little indiscretions are hidden, somebody is going to find out about them—and then he is in for trouble and plenty of it.

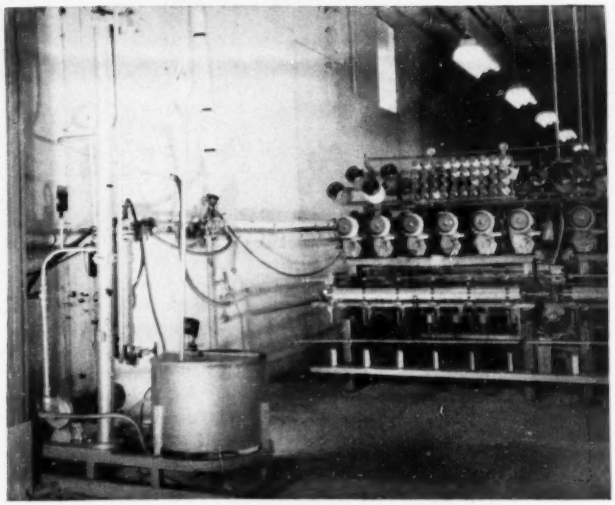
The foreman who has a number of female employees has to be especially careful. Too much attention to any one woman, especially if she is young and pretty, is certain to provoke gossip which hurts both the overseer and the employee.

We have known supervisors who would discipline operatives for laying out because of intoxication, yet the overseers themselves were noted for their drinking.

The quality of *thrift* might seem a little far-fetched when applied to the ability of the overseer to get along with his employees and to do a better job for his company. But is it? The foreman who is always in a financial tight just does not have the right mental attitude. This might be better expressed as an inferiority complex which will affect his dealings with his employees. This does not mean that the overseer will not at some time or other have to go in debt or borrow money, but even this should be limited to his ability to repay promptly. The overseer who is careless in handling his own financial affairs cannot be expected to do much better in handling the business affairs of his department.

(*To be continued*)

SIZE SOLUTION is kept at a viscosity of 120 sec Saybolt ASE. Demineralized water and size solution are bled into the size circulator, shown here, automatically so that viscosity remains constant. The size is continuously recirculated through sizing troughs by means of this gravity flow and pumping system. Viscosity is critical because it determines size pick-up of yarn.



EXCLUSIVE

Staff Prepared

Ion-Free Water

aids throwing plant in sizing nylon

Demineralizing unit at Kahn & Feldman produces low-cost, soft water so necessary in preparing sizing solutions for monofilament nylon yarns.

AN ADVANCED METHOD developed for softening water finds application in the processing of nylon yarn. The method is, essentially, demineralization of water by means of ion exchange resins. Its application in the nylon processing field stems from the need for water of the highest purity in formulating polyvinyl alcohol and also polyacrylic acid base sizing solutions.

One of the first to venture into this new technique of water treatment is Kahn and Feldman, Inc., who now demineralize 60 gallons of raw water hourly at their Brooklyn throwing unit. The bulk of this output is consumed in sizing 15 denier mono-filament nylon ear-marked for the full-fashioned hosiery trade.

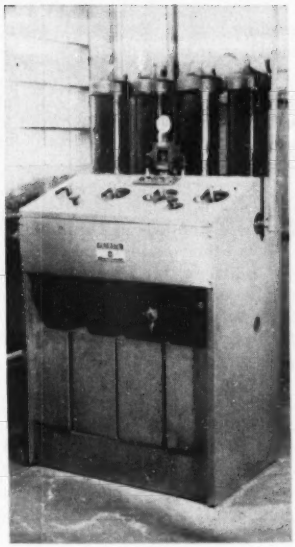
The Apparatus. For resin treatment of water, the size making department of this throwster is equipped with a Filt-R-Stil furnished by American Cyanamid Company. It is a four-bed unit occupying less than six square feet of floor space.

Beds are alternately cation and anion exchange resins. The last two beds act as scavengers, picking up ion leakage from the first pair of beds. This model will yield as little as 1 part-per-million of total ionizable solids from 500 to 1000 ppm water.

Pressure from the city main should be 20 pounds minimum. Power requirements are 110-volt a-c single phase 60-cycle current. Compact, self-sustained, the Filt-R-Stil calls for only four connections on installation: raw water line, drain pipe, electric outlet, and storage or service line. It is then ready for immediate operation.

The unit is encased in a desk type, welded stainless steel cabinet. Resin volume per column is 9.6 cubic feet. Instruments and controls include a Rotameter for measuring flow rate, a pressure gauge, and an electronic controller equipped with red and green light indicators. The built-in controller assures quality. This device makes use of the resistance which water offers the flow of electricity. The controller measures the resistance of water leaving the last bed.

For example, 50,000 ohms per ml indicates that there are 10 ppm



THE UNIT is encased in a desk-type, welded stainless steel cabinet. Interior of columns can be readily inspected. Corrosion resistant plastic tubing is provided for process and regenerant piping. Resin volume is 0.6 cubic feet per column. Instruments and controls include Rotameter for measuring flow rate, pressure gauge, and electronic controller equipped with red and green light indicators. There are provisions for automatic shut-off or external alarm.

How the Filt-R-Stil water demineralizer works

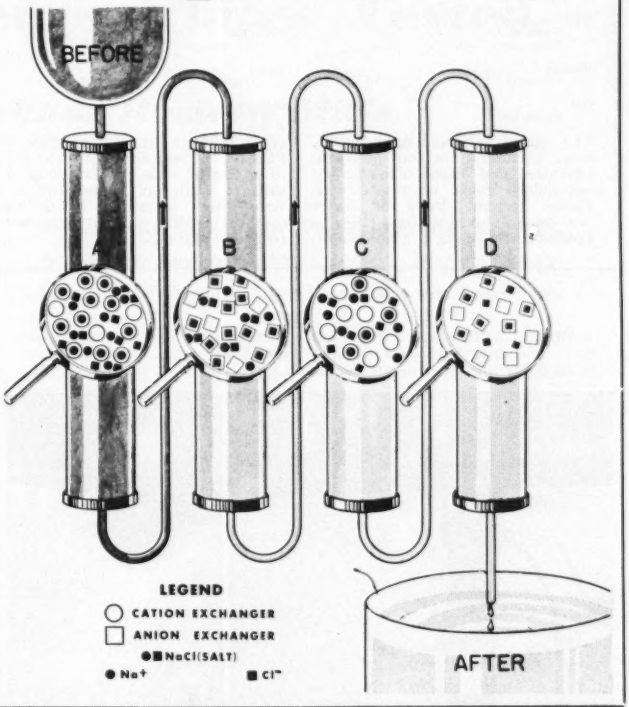
The salts most often encountered in natural waters are sodium chloride (common table salt) magnesium sulfate (epsom salt) and calcium carbonate (limestone). To simplify this illustration, we are assuming that the water to be "demineralized" contains only common salt.

A chemist would designate this substance as NaCl meaning that it is a molecule comprising a combination of sodium ion, Na^+ (a cation) shown as a black circle ● and a chloride ion, Cl^- (an anion) represented by a black square ■ The complete molecule is depicted ●■

In the first column, salt dissolved in the water meets a *CATION EXCHANGER:* ○ This cation exchanger has the ability to disrupt or split the molecule and to "capture" the sodium ion ◉ removing it from the water, and setting free the chloride ion ■ which is the acidic part of the molecule.

These freed chloride ions ■ which are still dissolved in the water then meet an *ANION EXCHANGER* □ in the second column and are there removed: ▣

The third column which also contains a *CATION EXCHANGER* ○ serves to split any salts which may have leaked through the first two columns and to remove from the water any sodium ion: ◉ The last column containing an *ANION EXCHANGER* □ adsorbs the acids ▣ set free in the third bed.



ionizable solids in the effluent. This figure can be used as an endpoint which, when reached and indicated by red light, means it's time to regenerate the resin beds. Kahn and Feldman use a lower exhaustion point and insist upon purity approaching 0 ppm.

Between regenerations, the throwster treats about 4000 gallons of water. Ordinarily, two hours are required for a regeneration which consists of flushing with H_2SO_4 (66°Be) and NaOH (Flake). The procedure worked out in this Brooklyn firm calls for a longer period, but capacity is then increased 50 per cent.

The only direct costs for operating the demineralizer are those of the chemicals and labor required for regenerating the resins. The chemical cost is approximately 1.7 cents per 1000 gallons.

The normal source for Kahn and Feldman's water supply is the Catskill shed. A small percentage is drawn from Long Island's water bed and well system. Ordinarily, the $CaCO_3$ hardness varies from 26 ppm for Catskill water to 60 ppm when Long Island water is bled in.

One analysis of Catskill water revealed:

Total hardness ($CaCO_3$)	26 ppm
Alkalinity A (Methyl Orange)	18 ppm
Alkalinity B (Phenolphthalein)	0 ppm
Causticity (Alkalinity C)	0 ppm
CO_2	1 ppm
Cl	3 ppm
SO_3	4 ppm
Fe	1 ppm
pH Turbidity	5 ppm
Color	5 ppm

This water will give a 0 ppm

Typical Operating Costs of Demineralization

Textile Centers	Chemical Cost Per 1000 Gallons (Cents)	Textile Centers	Chemical Cost Per 1000 Gallons (Cents)
Maine		**Delaware**	
Lewiston	1.8	Wilmington	6.4
Massachusetts		**Maryland**	
Lawrence	4.5	Baltimore	5.8
Fall River	3.0	**Virginia**	
Holyoke	3.9	Richmond	10.5
New Hampshire		Danville	4.3
Laconia	1.8	**Kentucky**	
Nashua	3.5	Louisville	17.1
Vermont		**Tennessee**	
Ludlow	7.9	Nashville	9.9
Rhode Island		Memphis	7.1
Providence	4.5	**North Carolina**	
Connecticut		Rocky Mount	5.8
Norwich	7.7	Charlotte	3.9
New York		Gastonia	4.5
Troy	4.1	**South Carolina**	
Pennsylvania		Greenville	1.7
Wilkes-Barre	3.3	**Georgia**	
Allentown	22.9	Atlanta	2.1
New Jersey		Macon	5.7
Passaic	4.1	**Alabama**	
Paterson	9.4	Birmingham	11.6
Illinois		**Texas**	
Chicago	8.7	Dallas	11.1
Ohio		**California**	
Cleveland	11.1	Los Angeles	24.0

The values indicated in this table were derived from four-bed unit operation and 50,000 ohms as the end-point. These costs are estimated on the basis of water analysis for each of these cities as published by the U. S. Department of Interior in its "Water Supply Paper 658" and on costs of 5c per lb of caustic soda and 2c per lb of sulfuric acid. On large installations, these costs can be further reduced by the use of regenerant recovery systems.

A FILT-R-STIL, similar to the one shown here, is kept in the laboratory. The unit, Model C4, yields 8 gallons per hour. Treated water is used for all experiments requiring high degree of purity control.

reading on a Barnstead purity meter after being demineralized.

Why Ion Free Water. Why are these precautions to clear water of electrolytic material taken by Kahn and Feldman?

Polyvinyl alcohol base nylon sizes are used for hosiery yarns. They are applied on 15 denier as well as other deniers, according to the knitter's specification. Polyacrylic acid base sizes are applied to all nylon deniers used for weaving or warp knitting. Both types of sizes require mineral-free water.

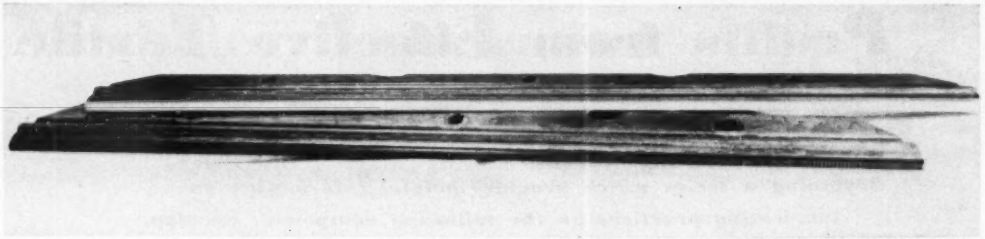
For example, PM-90 is an aqueous solution containing 8.5% by weight "Elvanol" 51 - 05 polyvinyl alcohol and 1.7% boric acid. The size must be prepared from electrolyte-free water within a range of pH 6 to 8. Otherwise, the alcohol will not dissolve properly. Ion exchange resin treatment produces water answering such a description. Its mineral content is comparable to that of double distilled water, according to Irving Lopatey, Kahn and Feldman chemist.

Mr. Lopatey points out: "Water is a major raw material in the sizing of nylon. It should be subjected to the same degree of quality control accorded other raw materials, including the yarn itself, if the finished product is to possess a high order of quality. Often, tap water is neglected much to the detriment of an otherwise excellent quality control program."

This statement has great meaning for hosiery knitters who must buy high performance yarns in order to make their operations profitable. Poorly sized yarn is generally unfit for the high speed knitting motions of a full-fashioned machine. It will produce erratic stitch constructions or cause production losses due to ends down.

One of the more common nylon yarn complaints traceable to faulty sizing is the presence of thick and thin spots. This defect is attributed to size being dispersed unevenly over the yarn during throwing. The factors contributing to non-uniform size dispersion are more often found in the size itself rather than in the size machine's mechanism.

(*Continued on page* 192)



NYLON INSERT (top verge plate in photo) shows no sign of wear after being in service for four months. Note indentations on regular insert (lower verge plate) after same length of service.

Nylon Verge Plates Tested

at Durham Hosiery Mills

Results on 51-gauge full-fashioned hosiery machines indicate that nylon inserts have longer life than regular inserts in verge plates.

EXCLUSIVE

Staff Prepared

EARLY in 1950, Durham (N. C.) Hosiery Mills secured two verge plates with nylon inserts, and these plates were tested in their full-fashioned hosiery machines. The nylon inserts had been furnished Textile Machine Works by Du Pont, and had been inserted into regular "Reading" full-fashioned knitting machine verge plates. These two plates gave such satisfactory service that Durham Hosiery Mills had Du Pont send enough nylon sheet to Textile Machine Works to make up thirty of these special plates.

On June 1, 1950, these thirty plates were put in service on a thirty-section, 51-gauge, "Reading" machine, and they were run on regular five-day, three-shift service until the end of July. During two months of service on this machine there was but one broken sinker, and the verge plates showed no signs of wear on the face of the nylon insert. Performance was very satisfactory.

It was then decided to change the plates to another machine to continue the tests. After two months on the second machine, the inserts still showed no signs of wear. In other words, in four months of operation on two different 51-gauge machines, the nylon verge plate inserts were still as good as new. Standard inserts show very noticeable wear after having been in service for four months.

The management at Durham Hosiery Mills has decided to take the test one step further and try the inserts side by side with other models. They are putting the nylon insert verge plates on 15 sections of two machines and standard inserts on the other 15 sections of each machine. These machines will be run until the inserts are worn sufficiently to need refacing. The date each insert is refaced will be recorded so that a record may be available to show comparative life of each type. Although it has been proved that the nylon inserts have longer life, the test will show just how much longer.

The mill is also running tests on nylon back tension holding devices which, if successful, will replace other types in the mill.

Profits from Effective Textile

Beginning a series which provides helpful information on lubricating practices on the following equipment: opening, picking, carding, drawing, roving, spinning, twisting, slashing.

Article 1

THE MANAGEMENTS of textile mills expect from their machinery a continuous and profitable flow of production goods without interruption from breakdown, excessive wear, or fires. However, none of this expensive mechanical equipment can perform at its best unless it is lubricated effectively.

With the right kind of lubricants and with the best method of application, a minimum amount of power is consumed per unit of production; maintenance cost is lowest; and production is at its peak.

opening and picking

The machinery in the opening and picking departments of a textile plant operating on the cotton system is among the heaviest used. The bearings, gears, chains, and sprockets are exposed to considerable dust and lint. Fans and beaters operate at high speeds. The inevitable vibration of the beaters results in heavy impact loads on beater bearings. Vertical openers are heavily loaded, high-speed machines; the vertical step shaft bearings are subjected to conditions that frequently develop high operating temperatures. These bearings may require special consideration in the matter of design or lubrication.

Lubrication in Mills Having Old Equipment. There remain a few of the older mills in which the opening and picking equipment consists of individual units. In the design of these machines, little consideration has been given to lubrication. Bearings consist largely of bored holes in cast iron. No special consideration has been given to accuracy of dimensions or to provisions for holding a lubricant. No better than boundary lubrication can be maintained and then only for a short time. In these older mills, therefore, there is an opportunity for making improvements in lubrication that can result in material savings in production cost.

The bearings of older production machinery are usually of simple design. The shafting is held in position by holes bored in the machine casting, and the lubricant is supplied through small holes drilled in the mid-position of the bearings. Since clearances are not carefully controlled and there is no way to retain a lubricant in a bearing, it is difficult to establish a lubrication program which will assure that the manual application of lubricants will result in lowest power consumption and the least wear.

If the lubricant is applied often enough, some of the excess oil will get on the machinery and on the floor and create a possible fire and safety hazard. This also promotes the spoilage of a considerable amount of stock, making it unfit for further processing.

Bottle Oilers Aid Lubrication of Old Equipment. On those bearings that are sufficiently large so that well supported bottle oilers can be applied, good lubrication without excessive leakage can be accomplished. Some of the arrangements for line-shaft bearings can be utilized also.

In the smaller bearings, where the bearing shell is too thin to apply bottle oilers, frequent but conservative manual application is often possible with a trigger-type of oil gun. A limited trigger pull permits only a drop or two of a lubricant to be applied at each pull of the trigger. The periods of such application must be governed by a study of the individual apparatus with a view to determining how long a satisfactory film will last after a single application of oil.

On these smaller bearings, it is sometimes possible to drive in a grease fitting so that grease can be applied by means of a grease gun. A schedule can be established for application once each shift of 8 hours.

vertical openers

Vertical openers may be either oil-lubricated or grease-lubricated. It is probable that the older units are of the plain bearing type, in which grease is usually applied by means of grease cups. The cup should be screwed down three turns twice weekly, and refilled when necessary.

Machinery Lubrication

By F. S. JONES
Lubricating Department
Socony-Vacuum Oil Company, Inc.

EXCLUSIVE

The use of a compression cup with a tell-tale on it for visual indication as to whether or not the cup is filled will provide regular lubrication for the plain guide and thrust bearings. No doubt, some of the plain bearing equipment has been replaced with ball bearing machines. These require a ball-bearing lubricant such as is recommended for the anti-friction bearings in modern mills.

line shaft bearings

In the older mills, the individual machines were, in all likelihood, driven originally by belting to line shafting, which in turn had been driven at one time by a single steam engine. In nearly all these mills the steam engines have been replaced with electric motors, and the line shafting has been sectionalized so that groups of machines can be driven by a single motor. This means that the line shafting in all likelihood still has its original bearings.

If the line shaft bearings are ring-oiled, and if they are mounted high, they will normally be filled manually by an oiler who will have to climb a ladder to do his job. Over-oiling, therefore, is common. This results in drippage and in staining of stock which is then unfit for further processing. The oil-soaked floor presents a fire and safety hazard. The use of constant-level oilers or a special application and arrangement of bottle oilers will maintain a level of oil that will serve a triple purpose:

(a) Prevents over-filling and leakage of oil into staple.

(b) Serves as a visual aid as to whether or not the bearing has sufficient oil.

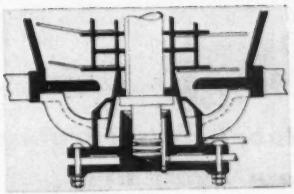
(c) Eliminates large oil consumption resulting from the surplus oil that leaks out.

Arrangement can also be made for the continuous application of a small amount of oil to the plain bearings of J-hangers with bottle oilers. On some of the thick bearing caps it is possible to drill the usual oil hole to a diameter of 11/32-in. and to insert a bottle oiler in the drilled hole. In other cases, such as thin bearing caps, if this is not practical the bearing caps can be drilled to insert ¼-in. pipe nipples which serve as excellent supports for bottle oilers.

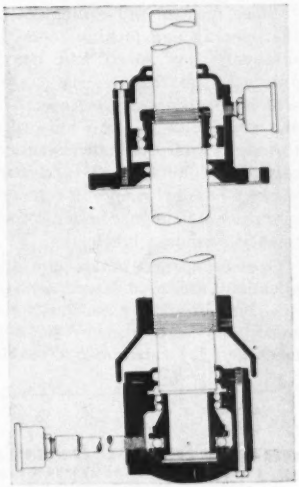
Applying Bottle Oilers to Shafting. Bottle oilers can be purchased with round bottles or with flat-sided bottles. The latter can be put close to some obstruction or support which may be part of the original design or mill layout.

With shafting of approximately 3 inches diameter or smaller, one bottle oiler will supply sufficient oil, of the right grade, to provide good lubrication for a bearing approximately 6 inches in length. For bearings 6 inches or longer one bottle for each 6 inches of length will supply sufficient oil for good lubrication.

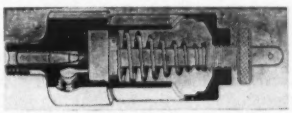
There have been J-hanger bearings that were originally designed to take advantage of the capillary movement of oil from the reservoir to the surface of the journal for long-time operation. These are not considered reliable, and it will be



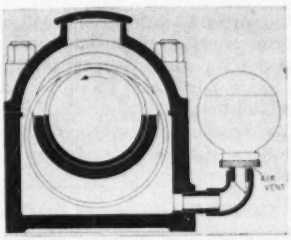
PLAIN COLLAR thrust bearing of the vertical opener.



UPPER GUIDE BEARING of a vertical opener may be a plain or ball bearing and is usually grease lubricated. The lower or thrust bearing may be of the plain collar type, running in an oil bath; or it may be a grease-lubricated ball type.



GUN-FILLED GREASE CUP. Grease is fed to the bearing automatically and continuously by the pressure exerted by a compressed spring.



BOTTLE OILER utilized as a constant-level device for maintaining oil level in ring-oiled bearing.

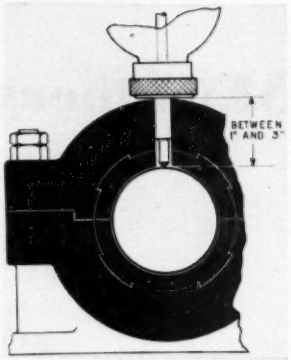
found that the application of bottle oilers to bearings of this design will result in the best long-time performance.

lubricants recommended old equipment

Since most of the equipment in the opening and picking rooms is relatively low speed and heavy duty, the oil that is best suited will have a viscosity between 275 and 400 S.S.U. at 100 F. In order to reduce wear, it should have exceptional film strength and persistence-of-film when subjected to vibration and impact under conditions of boundary lubrication.

Grease cup and grease gun applications are best served with a lime-soap pressure grease of No. 2 consistency. If it happens that the machinery is located in an unusually warm place, a No. 3 consistency may be more suitable.

Modern Design Considers Lubrication. In a modern mill the equipment has been designed to give every consideration to lubrication, recognizing that no machinery can perform at its best unless it can be lubricated effectively. Wherever possible, anti-friction bearings have been used. In other places, where it has not been feasible to use anti-friction bearings, the plain bearings have been designed either for oil lubrication or for the application of grease by means of a gun.



IF THE CAP of a bearing is thick enough, bottle oilers may be applied by drilling the required number of 11/32" holes through the cap to receive the shanks of the oilers. Where existing holes in the cap are too large, other methods may be employed for holding the oilers.

anti-friction bearings

The problem of protecting anti-friction bearings involves the prevention of abrasion, corrosion, and the accumulation of harmful deposits. These bearings are grease lubricated. Abrasion is prevented when a grease is used that will exclude dust and gritty material by forming an effective seal between the shaft and the housing. In addition, the use of a lubricant of high purity is essential.

Corrosion. As far as corrosion is concerned, this means not only the exclusion of water, but also the use of a lubricant that will not form harmful products of oxidation. The high chemical stability of such a lubricant also minimizes the formation of deposits that cause idle bearings to stick, produce excessive stresses, and shorten the life of bearings in service.

Care of Grease-Packed Bearings. In designing their equipment, the manufacturers have utilized grease-packed anti-friction bearings when their location is inaccessible for any other type of lubricant application. It is recommended that these bearings be repacked with fresh grease every six months. Before re-packing, the bearings should be thoroughly cleaned, preferably with a petroleum solvent—otherwise with carbon tetrachloride. All traces of the solvent should then be removed from the bearing, using a light mineral oil (such as the spindle oil used in the spinning room).

After thoroughly agitating and saturating the bearing in the spindle oil, the oil should be drained completely to prevent dilution of the new grease. The bearing may be then filled (not the housing) with the proper grease, using the fingers to force the grease between all parts. After this has been done, the bearing may be replaced in its housing for another six months of operation.

Over-Lubrication and Under-Lubrication. In the more accessible places, provisions are made for filling the bearings by means of a grease gun. Both under-lubrication and over-lubrication are harmful. Under-lubrication may result in bearing failure through the inability of an insufficient amount of lubricant to perform successfully.

Excess grease in the path of the rotating parts offers high resistance to motion. Overheating and high internal pressure result. Excessive leakage at bearing seals may also occur. In any case, the effective life of the grease charge will be shortened due to increased rate of oxidation at higher temperatures.

In many cases, high operating temperatures have been reduced to normal merely by opening the grease plugs and allowing excess grease to escape.

Pressure fittings and grease gun nozzles should be wiped clean to prevent introducing impurities or abrasive material into the bearings. Drain plugs should be removed before grease is applied in order to avoid damaging the seals or forcing grease out along the shaft. This also assures the purging of old grease from the bearing housing. Grease may then be added, while the machines are still running, until all excess grease has been expelled by the rotating parts —that is, until no more grease is forced out at the drain openings.

Excess grease should be wiped off the drain plugs, which should then be cleaned and replaced. This completes the greasing operation.

Inaccessible Bearings. By inserting piping into tapped drain holes, and by bringing the piping out to a point where the plugs will be readily accessible when a machine is in operation, inaccessible anti-friction bearings can be greased while the machinery is in operation.

Some bearings, such as those on electric motors, have short drain pipes and pressure-relief valves instead of drain plugs. Grease is applied while the machines or motors are running until excess grease begins to ooze out of the pressure relief. In these cases, fittings and drain pipes should be removed and cleaned at least once a year to remove soap deposits.

Reducing Opening Room Fires. Fires that have sometimes occurred in opening rooms, particularly in the older mills, have been caused in some instances by faulty lubrication. Lack of proper application has resulted in hot bearings which have started fires. Fires have also been started by sparks created when metal embedded in bunches of fiber strikes the plates of cleaning machinery. In mills having a planned lubrication program, it has been found that the fire hazard is greatly reduced.

The use of magnets in the ducts, where fibers are moved by air from one place to another, has reduced sparking by removing metallic particles that might otherwise cause a fire.

Profits From Correct Lubrication

A summary of the profits from the correct lubrication of opening room and picker room machinery can be classified as follows:

1. Production is increased by the smooth, steady flow of well processed fibers. Minimum time is expended for repairs of machines that are out of service. Less fiber is lost due to oil spotting.

2. Hazards from fire and hazards to personnel, brought about by excessive oil on machinery and floors, are materially reduced.

3. Power is saved by good lubrication through reduction of friction—either metallic friction caused by inadequate lubrication, or fluid friction through the use of unsuitable products. The picker room of an average textile mill consumes approximately 5% of the entire power used by the mill. Notwithstanding this, appreciable power savings can be effected. An example of the possibility in reduced production costs through power savings is:

	Starting Load	Average Running Load	Friction Load
Ordinary Lubrication	38.1 kw.	33.25	6.275
Correct Textile Oil	34.6 kw.	29.10	2.000
Saving	3.5 kw.	3.15	4.275
Saving	9%	12.5%	68%

4. Maintenance cost is reduced to a minimum because there will be less need for machine adjustments and repairs resulting from worn parts. There will also be less repairs caused by possible damage resulting from fire due to heated bearings.

5. Lubrication cost will be economical because the right kind of lubricants are applied regularly in the minimum amounts to assure good supporting films for the many moving parts.

lubricants recommended modern mills

Anti-friction bearing greases are special lubricants. They must have the highest resistance to oxidation and separation under conditions of sustained agitation and temperature. Usually a No. 3 consistency is satisfactory.

Manufacturers of opening and cleaning equipment recommend that plain bearings, when equipped for lubrication by means of a grease gun, make use of a high quality pressure grease of No. 2 consistency, applied at intervals of approximately 8 hours.

The few places where oil is required in a modern mill should be lubricated every 8 hours with a suitable oil having a viscosity in the range of 275 to 400 S.S.U. at 100 F. In order to reduce wear it should have exceptional film strength and persistence-of-film when subjected to vibration and impact under condition of boundary lubrication. This oil should be applied by means of a trigger-type oiler; and the flow should be restricted so that only a drop or two is supplied with each pull of the trigger.

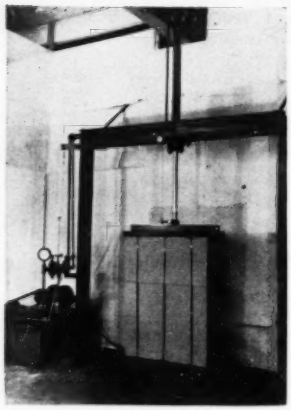
lubrication program

In any mill, it is important that there should be a well planned program for lubrication. Like any other department, in opening and picking there should be a competent head to the Lubrication Department; and this individual should rate with other supervisors. He should be of a type that can supervise all lubrication, have charge of storing, distribution, handling, and application of lubricants in the mill. He should be able to recognize mechanical imperfections in time for readjustment or fixing before mechanical failures occur. He should be assisted by intelligent and capable oilers.

Suppliers of lubricants can also assist him by making available engineering service for the selection of the right lubricants, method of application, etc.

(Article 2 will deal with the lubrication of card room machinery.)

Hydraulic Carton Press Simplifies



THE CARTON PRESS built for Brown Mfg. Co. Photo was taken before equipment was installed in the mill.

THE CARTON PRESS illustrated is installed in the packing and shipping room of the Brown Manufacturing Company, producers of cotton flannels, in Concord, N. C. It replaces an old, air operated piston press, and it has more than doubled the rate at which cartons of cloth can be pressed and wired.

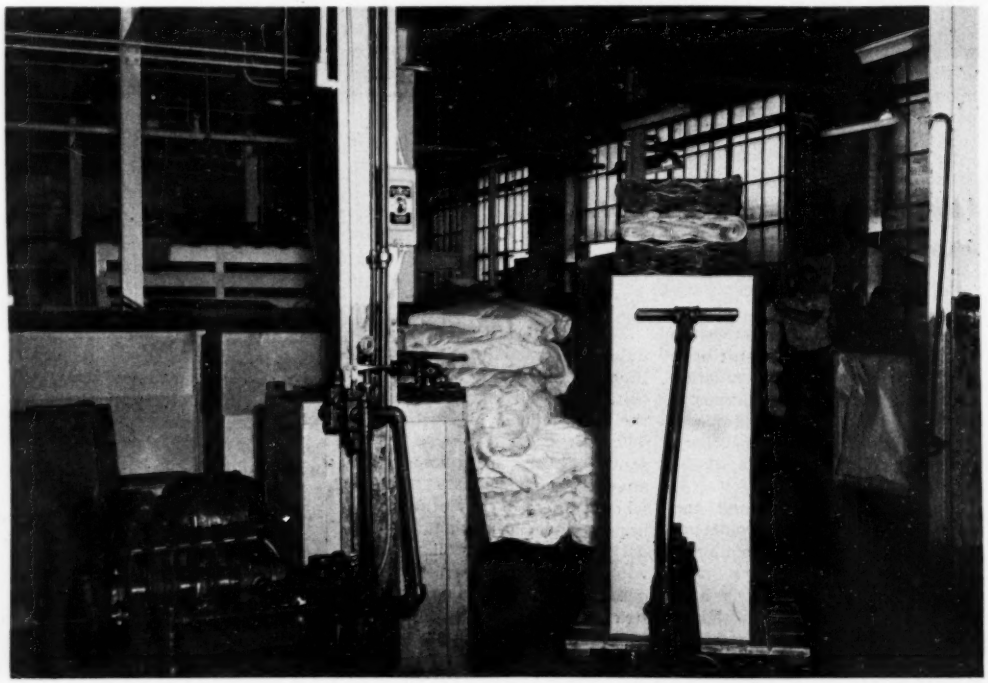
The new press, which has been in operation about a year, was built by the J. T. Beaty Machinery Co., Charlotte, N. C., and was built to specifications set forth by the mill. It is hydraulically operated, the fluid being pumped into the cylinder by an electric motor powered pump, which was originally designed to operate aircraft landing gear.

The piston and cylinder of the press are mounted on two I-beams, which are actually building pillars. Since comparatively little pressure is required, no special foundation or supports were used.

The platen of the press is of wood, and a rectangular hole is cut through it on each side so that the wires used in tying the carton may be crimped while still in the press.

To package an order of cloth, an empty carton bottom is placed on a wooden pallet and the cloth placed in it. After being weighed, a top is placed over the cloth, and a small, hydraulic lift, hand truck is used to transport the pallet and its load to the press. The hand

TO PACK A CARTON OF CLOTH, the bottom of the carton is placed on a pallet and filled with bolts of cloth. The pallet is moved into position beneath the press.



Packaging of Cloth

Staff Prepared

EXCLUSIVE

truck is lowered until the pallet rests on its own base, and then the press is lowered to compress the carton. Wires are run around the carton and crimped through the openings in the top of the platen; the press is raised; and the carton is ready for shipment.

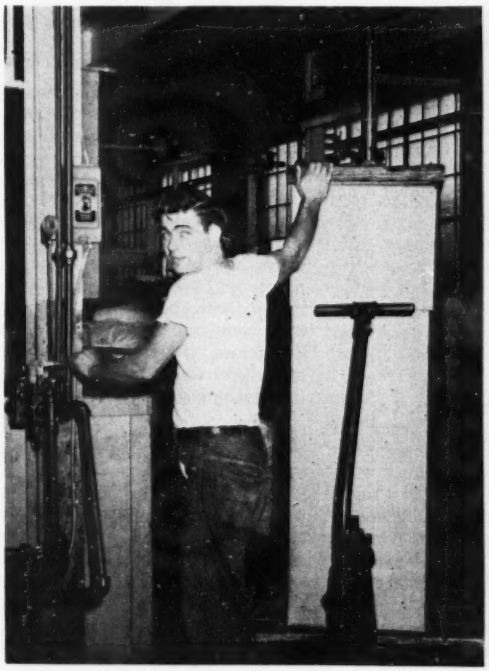
One carton can be strapped and packed in about three minutes, and if necessary, the operators can hold this rate and turn out as many as 20 cartons in an hour. Most of this time is involved in packing the cloth in the cartons and in wiring. The press, itself, is so fast that the actual compressing of the carton takes only a second or two.

The press is equipped with an automatic cut-off on both its upward and downward movements, so there is no danger of the pump continuing to pump fluid to the cylinder after the stroke of the piston has been completed in either direction.

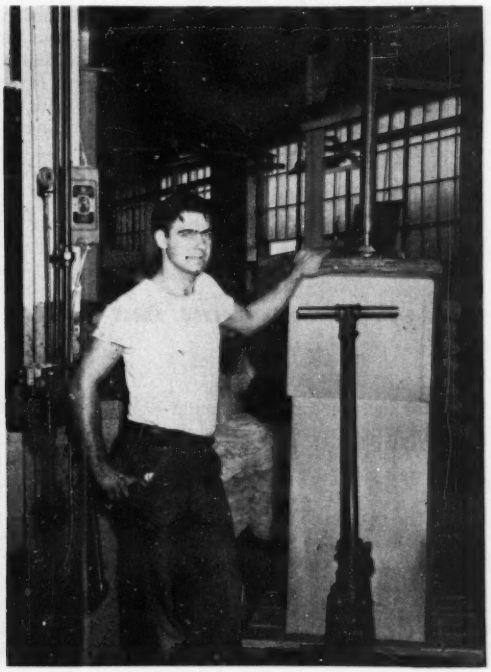
The carton shown in the illustrations contains about 290 lb of cotton flannel.

HOLES IN TOP of wooden platen permit the wires to be crimped while the platen is still in place. When the three wires have been crimped, the carton is ready for shipment.

TOP OF THE CARTON is then put in place, and press platen lowered.



WHEN PLATEN is fully lowered, the carton is ready to be strapped with baling wire.



THIS is the first article in a three-part series; it covers the history and development of bleaching, influence of the laboratory on the present-day process, clerical work necessary before running the goods, sewing and starting the goods for the kier and the continuous bleach range, singeing, and desizing.

The second article discusses kiers, kier methods, the chlorine bleach, peroxide kier boil, and formulas.

The concluding article provides a detailed description of the continuous bleaching process.

This entire series contains not only many practical and helpful pointers which are useful to bleachers, but which also are informative to manufacturers of grey goods.—Eds.

Preparation and

Introduction

THE BLEACHING of cotton piece goods is an activity which dates back to the earliest days of history, and for many centuries it has been an occupation steeped in tradition almost to the point of witchcraft. From the time of the first crude attempts at the bleaching of fabrics, the Bleacher became a man who possessed a very special craft, which he religiously guarded from others.

He was proud of his mastery of the old "tried and true" methods and had little interest or time for new-fangled ideas and short cuts suggested by "outsiders."

"Secret" Formulas. Even in comparatively recent times, the Bleacher had his own secret formulas which he usually kept under lock and key safe from prying eyes and which, more often than not, he took home with him at the end of each work day.

The Bleacher had his troubles, lots of them, but he accepted an occasional batch of tendered cloth as a form of occupational hazard and kept his pitch fork handy for such eventualities. Even today, almost every bleachery in the land has a nostalgic story or two about the time they had to "shovel it out with a pitch fork."

Progress Constant But Slow

Under such conditions, it should be quite understandable that, while progress in improved bleaching techniques was fairly constant, the pace of progress was exceedingly slow. The resistance to change is a deep-rooted human instinct, and even in a competitive industry such as the textile industry considerable external pressure was necessary to maintain progress and development.

The Outside Influence. Looking back over more recent years, one finds that many of the present day advancements in bleaching techniques came into being as a result of technological pressure from outside sources. Some of this pressure came from the manufacturers of textile processing machinery and the suppliers of chemicals used in textile processing operations.

This was a natural phenomenon. In order to sell his product and conduct his business profitably, the fabricator of textile machinery had to strive constantly to design and build machinery a little more efficient and more economical to run than that offered by his competitors. As may be surmised, this competition in the textile machinery field has been a matter of constantly shifting advantages, but the textile industry as a whole has profited by each new advancement in textile machinery design.

In an almost identical manner, the manufacturers of textile processing chemicals have been on a constant search for ways and means to provide new and enlarged applications for their products. This work has brought them in very close contact with the actual bleaching operations being carried out in the textile plants and has made it possible for them to work closely with the plant personnel responsible for the bleaching procedures.

Three-Way Cooperation

The search for new and enlarged applications for their chemical products by the chemical suppliers has, in a number of cases, proceeded far beyond the improved use of their chemicals in existing equipment and has brought them into close cooperation with the manufacturers of new types of textile machinery.

The development of the new continuous peroxide bleaching systems brought out by Buffalo Electrochemical Co., E. I. DuPont De Nemours & Co., Inc., and Mathieson Alkali Co. are classic examples of three-way cooperation involving the chemical supplier, the textile machinery fabricator and the bleachery technical men. These continuous bleaching sys-

Bleaching of Cotton Piece Goods

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tems, which will be discussed in detail later in this text, constitute one of the really major improvements in bleaching techniques since the advent of the pressure kier and are now rapidly replacing the kiers on various lines of work (though the kier still has many applications).

It is interesting to note, and a criterion of the influence of tradition on bleaching as an industry, that in this century of rapid and vast technological development and change in almost all other industries, so many years elapsed between the time of the introduction of kier boiling and the new steam bleaching methods.

Laboratory's Influence

Another source of pressure, of a persistent and ever-stronger nature, that has brought about many present day improvements in bleaching and related processing methods is the bleachery's own laboratory. Time was, and it was not too many years ago, that the laboratory was relegated to a rather secondary or tertiary position in the general scheme of bleaching. The Bleacher stood supreme and looked upon these "bright young boys" with suspicion or at times as suitable subjects for his capricious whims.

The writer of this article was once told rather proudly by an old-line bleacher that there were plenty of ways to bring about a miss-boil in a test kier, and the inference was plain that bright ideas from the laboratory could be disposed of in this manner.

The Buck Stopped at Lab. Of course, the old-line Bleacher would admit that the plant laboratory had some value and he felt free to call upon the laboratory personnel at such times as his chronic troubles beset or upset him. There were times when it was a real comfort to the Bleacher to be able to report to the superintendent that, "I am waiting for a report from the fellows in the lab." Naturally, this transferred the super's attention to the laboratory.

The functions of the early bleachery laboratory, insofar as actual bleaching operations and formulas were concerned, were of a minor nature. Its chief activity was the testing of cloth samples, grey and finished, chemical supplies, process water analysis, the identification and removal of stains on the cloth, and similar matters.

Lab Comes Into Its Own. During the passage of time the stature of the plant laboratory has increased considerably until today the modern plant laboratory has become a hub around which the plant processing activities revolve. It now plays a most vital role in the bleaching operations. It has now become common practice for the bleaching formulas to originate in the laboratory. To properly qualify for this responsibility, the modern mill laboratory must be staffed with personnel possessing both theoretical and practical knowledge.

The modern Bleacher is, himself, a technically trained man and, as such, is the first to recognize the importance of the mill laboratory and makes it his business to work closely with it. Today, the idea of "everything goes through the Lab" is an accepted slogan and circumstance.

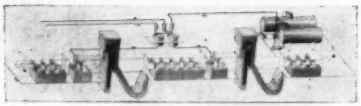
This spirit of cooperation is resulting in constant improvements and savings in operating costs.

EACH BLEACHERY has its own processing system which may, in certain details, vary from those of other bleacheries—but they all follow a similar general plan. It is the purpose of this article to describe the general plan used by the average bleacheries; the reader should bear in mind the fact that individual conditions found at any one particular plant can necessitate modifications of this general plan.

Clerical Work Vital

Most articles about processing omit any reference to the clerical work involved in the bleaching of cloth, and even in some plants operating personnel have a tendency to shun this side of the business as much as possible. Whether it is popular or not, it is vital and will be mentioned briefly here.

Customer's Order. Before the



cloth can be processed, there must be in existence in the plant office a customer's order. This is actually a contract between the customer and the bleachery, and it sets forth in specific terms such information as the name of the customer; his business address; his lot number for the cloth; the type and construction of the cloth; the number of bales or rolls along with their identifying numbers and the yardage and number of pieces contained in each; the type of bleach and finish desired; put-up, packing, and shipping instructions; delivery date; price quotation for the work, usually expressed as cost per yard; the terms of payment; and other relevant data.

Work Process Sheet. From the information listed on this order sheet, a work process sheet is made out for the lot and copies distributed to the various plant departments. It is most important that this process sheet be complete in all details so that the department foremen may have all necessary information available to them so that they may process the cloth correctly and efficiently.

Any mistakes or omissions on the work process sheet can result in costly troubles along the line. The routings and processing instructions to be found on the process sheets are usually the result of consultation between the superintendent, the department supervisors, and the laboratory staff.

Assuming that the proper paper work has been done and the cloth has been received in the grey room ready for processing, the preparation and bleaching of cotton piece goods follows this general pattern:

Starting the Process

The bales or rolls are assembled into lots and checked in against the listings on the process sheet. The wrappings are removed and, in the case of baled piece goods, the goods are laid out and the individual pieces in each bale are sewed together to form one long, continuous piece.

Sewing. It has been found that the type sewing machine which sews the stitch sometimes called the "baseball stitch," gives the seam in most cases best adapted for subsequent processing operations, and these machines are the type most in use today.

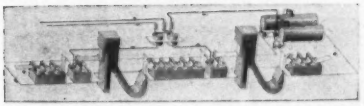
Retain Grey Samples

Sample swatches of each lot of grey cloth are removed and held in the mill sample department for reference. Also, in many cases, grey test swatches are sent to the laboratory for routine testing. Aft-

Grey Room Sewing Details

When the individual cuts of cloth are being assembled into lots for processing, it is most important for best results that a good sewing job be done and that close attention be given to the following sewing details:

1. In sewing two pieces of cloth together, the selvages at the beginning and end of the sewing must be even and smooth. One piece of cloth must not be gathered, pleated, or tucked under because this will cause trouble in later processing, particularly at the tenter frames and at the calender.
2. On dyed goods, these poor seams result in dye streaks and low quality work at the seam area.
3. One piece of cloth must not be pulled wider than the other and extend out past the other at the end of the seam. Such a seam gives the same effect at the tenter frame clips as a sudden change in cloth width.
4. At the completion of the seam, the thread should be cut off quite short. Trailing thread ends at the seams are common causes of wrap-arounds on small diameter nip rollers and are also sources of trouble at the tenter frames. These thread ends get into the tenter clips and when withdrawn drag out oil and dust from the back of the clip and mark off as oily streaks on the adjacent edge of the cloth.
5. Hanging filling threads react in the same manner, and they also should be clipped off short before the goods go into process.
6. All seams should be sewn straight across the piece and should be parallel to the filling yarns. Crooked or bowed seams "skew" the filling and cause distortion of the cloth during subsequent processing. Skewed cloth is particularly troublesome if the goods are to be printed or are to be manufactured into rectangular products such as tablecloths, sheets, pillow cases, etc. Electronic weft-straighteners will correct distortions in the body of the cloth but cannot straighten crooked seams or skewed cloth adjacent to such seams.
7. A good grade of sewing yarn should be used in the sewing machine so that the seam will have strength and durability equal to or in excess of the body of the cloth. If the Merrow type machine is used, the machine should be adjusted to give the seam sufficient "bite" into the body of the cloth and the spacing of the stitch should not be too close. If it is too close, a thick bunched-up seam will result which will rupture and part when the goods are subjected to calender pressures.
8. If the seam does not have enough "bite" into the body of the cloth, it will only be held by a



er the affixing of lot numbers and other necessary markings, all in indelible boil-fast marking compounds, the goods are ready to be run over the singer or through the desizing bath.

Most all cotton piece goods bleached today are given a preliminary desizing treatment. This desizing may be of a partial or complete nature, depending on the results desired, and may be accomplished by a number of different desizing methods. In many instances it is also required that the cloth be singed before desizing; and since desizing and singeing are related processes, many plants combine these two sequences to form a single operation.

This is accomplished by locating the desizing bath and its necessary machinery components at the delivery end of the singeing machine. This machinery set-up may be used as a whole or in part as desired. When singeing is not required or desirable the cloth may still be run through the singer, sans flame, and on through the desizing bath.

Singeing Process

The purpose of the singeing process is to burn off the protruding fiber segments and surface fuzz found on the grey cloth and by so doing produce a smooth surface which, when finished, will take on a good luster and will be free from surface shadow dullness.

Some years ago, hot-plate singeing and hot-roller singeing were in general use, but today they have been replaced almost entirely by various types of flame singeing. Since this article is concerned mainly with modern processing techniques, only brief details will be given on the hot-plate and hot-roller methods.

Hot-Plate and Hot-Roller Singeing. These methods were similar in the respect that the cloth was drawn rapidly over a heated surface and was not exposed directly to an open flame. The hot-roller method required pre-heating of the hot rollers, which was non-productive time, and also a lot of additional time was required to revolve the rollers as they slowly cooled to prevent warping distortion from uneven cooling. It is easy to see why present interest in hot-roller singeing is confined to interest of an historical nature only.

On the other hand, it is quite possible that a few hot-plate singers may still be in use in singeing delicate fabrics that would be damaged by direct flame penetration through the openings between the threads in the weave.

Practically all modern singeing is done on open gas flame or gas infra-red flame singers, with the latter and newer method finding

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few filling yarns and will pull out under the stress of warp-wise tension on the cloth.

9. If a chain type stitch is used, the length of the stitch must be adjusted so that each stitch fastens securely into the cloth. When the stitches are too close together a cutting action results and the cloth is weakened at the seam.

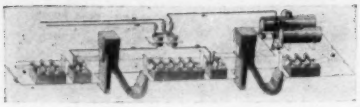
10. Care should be taken to insure good sewing at the selvages. The selvages are subjected to considerable stress during processing and if not properly sewn, seams will partially separate at the selvages. This leads to distortion of the cloth, localized dye streaks, and trouble at the tenter frames.

11. In sewing together two pieces of cloth, care must be taken to prevent the formation of any back-to-face combinations. The cloth should be sewn to enter the process all in the same manner. This is relatively easy if the goods are received in the bale and are laid out and sewed by the piece. However, when the goods are received from the weaving mill in roll form it is necessary to use more care to detect any back-to-face combinations, and each seam must be quickly inspected as it goes into the unrolling machine slack scray. Any reversed seams that are found must be removed and the goods sewed again in the proper manner. If this trouble occurs with any frequency the customer should be notified, supplied with sample back-to-face seams, and billed for the additional work involved.

12. Any poorly sewed seams should be removed and new seams made. If these are numerous, the customer should be billed for this work also. He can then take the matter up with his weaving mill supplier.

13. There are in use today, particularly in the sheet and pillow case manufacturing trade, photo-electric seam detectors which are used to forewarn the operator of the approach of a seam during sheet tearing operations. It is common practice to mark such goods with a black boil-fast line across the cloth adjacent with and parallel to the seam. These marks increase the efficiency of the seam detectors and should be affixed to the cloth when the pieces are sewn together and should all be on the face of the cloth, that is, all on the same side or surface.

14. When sewing "shorts and seconds," additional work is required, and an additional charge should be made for this type of work. Many customers believe that, since they buy these goods at a lower price, the processing costs should also be as low or even lower than regular first quality long cut goods.



increasing favor. In gas flame singeing the cloth is drawn rapidly over, and in direct contact with, the open flame which extends across the full width of the cloth; at least two burners are used. These burners are arranged in such a way that in a single pass both surfaces of the cloth are singed.

Control of Gas Flame. The intensity of the flame is controlled by the operator with manual valve settings to give the singeing depth desired. Automatic valve shut-off systems are provided to lower or extinguish the flame whenever the machine is stopped and the cloth is stationary over the burners. This, of course, prevents "burn offs."

Gas Flame Fuel. The gas flame may be provided from a number of combustible volatile fuels. So-called "city gas" may be used directly or in conjunction with a compressed air blower for greater flame intensity; it is a clean and usually convenient singeing fuel.

Natural gas may be used in the same manner with a few minor adjustments.

A mixture of volatized gasoline and compressed air has also been used satisfactorily by a number of plants.

Oil is not too adaptable for singeing but can be used if other fuels are not easily available. The oil flame lacks the clean combustion characteristics of the other fuels mentioned.

Singeing Pointers

1. Shuttle smashes, or a group of ends with no filling yarn content, will burn out on the singer and start fires on the cloth in the singer. Grey mills should be taught to cut these smashes out of the cloth. At the same time, the operator of the singer must be constantly on the alert to detect these imperfections as they emerge from the roll or bale on the way to the slack scray in front of the singer.

2. The singer operator must be trained to watch for turned selvages and longitudinal creases in the cloth and must straighten such places before the cloth passes over the singer flame.

3. During singeing operations, the cloth issuing from the singer should be examined at frequent intervals by the operator to observe the results being obtained. He should watch for excessive "browning" of the goods and the appearance of small holes with dark ring edges. These conditions indicate that the flame being used is too intense and should be modified.

4. The small "burn-holes" occurring during severe singeing usually develop at thin spots in the weaving which, naturally, are more susceptible to burning through than the rest of the cloth. Some singer operators are guided by the color and the amount of the singer smoke, but a smart operator watches the condition of the singed cloth and adjusts his burners accordingly.

5. Since slacking back of the cloth passing through the singer can cause wrap-arounds on rollers and excessive tension can cause broken selvages and damaged cloth, both unwelcome conditions in singeing, the proper tension must be carefully maintained on the cloth during singeing. This is accomplished by the manipulation of adjustable tension bar assemblies on the machine.

6. An educational program should be maintained to try to convince some of the customers that singeing can not be expected to remove neps, slubs, yarn bunches, hanging threads, and the like found in grey cloth. Its only function is the removal of the surface fiber tentacle fuzz. A flame intense enough to ignite the defects mentioned would also ignite the cloth, itself.

Infra-Red Burners

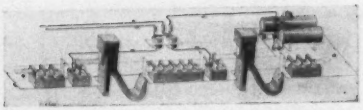
The infra-red gas burners are an interesting innovation to the older, direct open flame gas burner design and they do an excellent job of singeing. As previously stated, these infra-red gas burners are meeting with an increasing popularity. In many cases, fuel economies are possible by replacing two sets of double open flame burners with two infra-red burners, and in such replacements the infra-red burners have given equal or better singeing results.

Operation of Infra-Red. The infra-red burners are designed in such a manner that the gas flame is directed against a row of refractory tile sections which extend the full length of the burner. The gas flame heats these tiles to red heat and they then transmit the penetrating infra-red heat rays against the moving surface of the cloth.

These infra-red rays are transmitted in a uniform intensity against the surface of the cloth, and as a result uniform singeing is obtained. This eliminates "peaking," sometimes experienced on direct flame singers with its subsequent uneven or "streaky" singeing results. Little space is required for the installation of these infra-red burners, and they operate equally well in either the vertical or horizontal plane.

As in the case of the direct flame gas burners, the infra-red burners are provided with automatic shut-off valves to extinguish the burner flame (with the exception of the small pilot light burning at the gas feed end) whenever the travel of the cloth ceases. Because of the retention of heat by the refractory tiles, cloth lifting lever devices are also provided to raise the cloth to a safe distance from the tiles each time the machine is stopped.

Quenching After Singeing. All singers are high speed machines. Speeds ranging from 175 to 250 yards per minute and even higher are common. At these high speeds there is always a tendency for the cloth to carry along with it sparks and small ignited fiber particles, so some form of quenching must be provided to snuff these out.



On the narrow width singers the desizing bath located at the delivery end of the singer serves this purpose. If desizing is not desired, water may be used instead as the quenching agent.

On the wider singers (for wide sheetings, etc.) the quenching may be accomplished by passing the cloth through a set of squeeze rolls. As an added precaution, a water spray is often installed directly in front of the squeeze rolls.

The Desizing Process

Desizing, ordinarily the companion process to singeing, may be carried out in a number of ways—depending on the conditions that prevail in the mill, the characteristics of the cloth being desized, and the economics involved.

Open and Rope. As a general rule, narrow goods are desized with either enzyme solution or dilute caustic soda solution in the open width and then roped for the lay period; wide goods are desized in the rope form with dilute acid solutions. In some of the newer continuous bleaching range installations, wide goods are passed through the "brown sours" (the dilute acid solution) open width and then roped for the lay period.

Enzyme Desize

The enzyme method of desizing is widely used, is not a complicated process, and produces excellent results. The chemical costs of enzyme desizing are higher than the chemical costs of either the caustic steep or brown sour methods, but in many cases the difference in cost is offset by other advantages possessed by the enzyme method. For instance, enzyme solutions will not tender or chemically degrade the cloth, they are easy and safe to handle, and they produce superior desizing results.

There are various types of enzyme products in use and they are supplied in both the liquid and dry powder forms, but regardless of the type or brand they are all used for the same purpose. That purpose is the conversion, chemically, of the insoluble warp sizing starch products in the grey cloth to the soluble state so that they may be rinsed from the cloth.

Some enzymes simply convert the original insoluble starch to the form of soluble dextrines, while others carry the conversion process further and convert the insoluble starches to soluble sugars.

Each enzyme has a critical temperature range, and the supplier's recommendations should be followed when using the enzyme product.

Enzyme Desize Procedure. When desizing is being done by the enzyme method, the cloth passes in the open-width from the singer into the quench box, which in this case is also serving as the pad box of the desizing padder; is submerged and thoroughly saturated in the enzyme solution; passes through the squeeze rolls to remove excess enzyme liquor; and is then converted to rope form by passing through a constricting ring or pot-eye.

The cloth, now in the rope form, passes over reels and is plaited into pits or tubs by mechanical pilers or manually and let lay for the necessary lay period, usually 4 to 6 hours. An overnight lay period will not harm the cloth and is still favored in some plants.

The enzyme products come in various concentrations and it is impossible to prescribe a desizing solution strength which would be suitable in all cases. The plant laboratory should be the proper agency to prescribe the strength of the enzyme solution.

The enzyme liquor in the desizing padder should be constantly replenished during the run by slowly feeding in fresh liquor from an auxiliary supply tank. The temperature of the desizing liquor in the padder should be maintained at the recommended reading by means of automatically controlled closed coil heaters installed in the pad box. Temperature recording charts should also be provided to keep permanent records of the desizing operation.

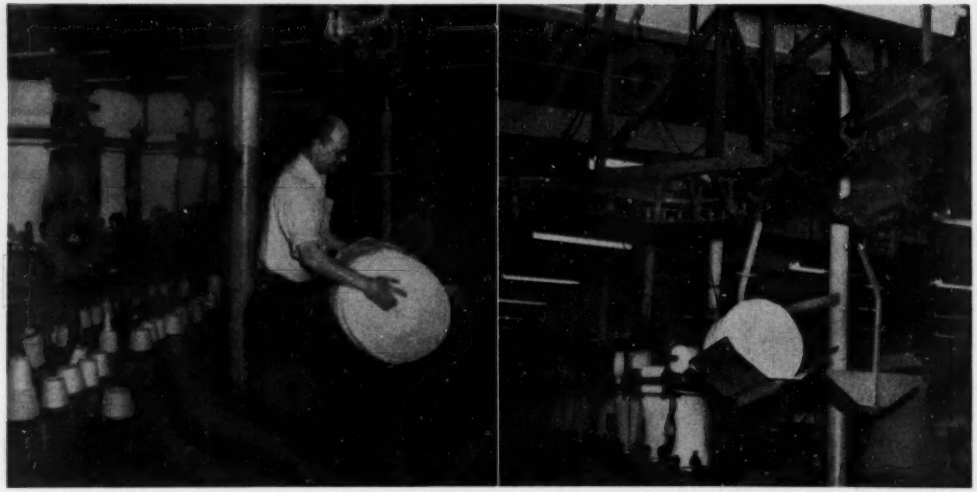
Since enzymes will gradually cause deterioration of most of the common metals, stainless steel desizing equipment is the type recommended as being the most economical in the long run.

(*Continued on page* 192)

Desizing Pointers

1. Care should be taken that the proper level is maintained in the desize box and that the temperature of the desizing liquor be carefully controlled. Any great deviation in either condition is bound to result in uneven desizing of the cloth with subsequent bleaching and dyeing troubles.

2. Certain precautions must be taken, following the passage of the cloth through the desizing solution, to prevent localized drying out of the cloth. In one of these dried out areas the starch does not fully convert or does not wash out properly and leaves a resist which will prove troublesome in later processing operations. The selvages and folds of cloth plaited open-width into boxes are cases of this sort and should be covered by moist cloths during the lay period to prevent the drying-out just described.



ROLL OF CLOTH is loaded on empty pallet (left) passing through knitting department. Right, roll is transported out of knitting department. Note empty pallet alongside returning from cloth room.

Tubular Knit Goods

WHEN Utica Knitting Company consolidated three separate and distinct knitting units into a single, more efficient mill, the finished product was a 700-machine department. It spread out over 50,000 square feet on one floor.

Total production remained as before, but many economies were effected. For one thing, centralization of knitting equipment cancelled the duplicate administrative and overhead expenses of a multi-mill operation. Yarn transportation was cut to the bone in that the reorganized knitting department is located in the same building as is the spinning mill. Also, the flow of knit goods from the various sections of circular knitters to the dyehouse, wash room, and finishing plants has become vastly simplified.

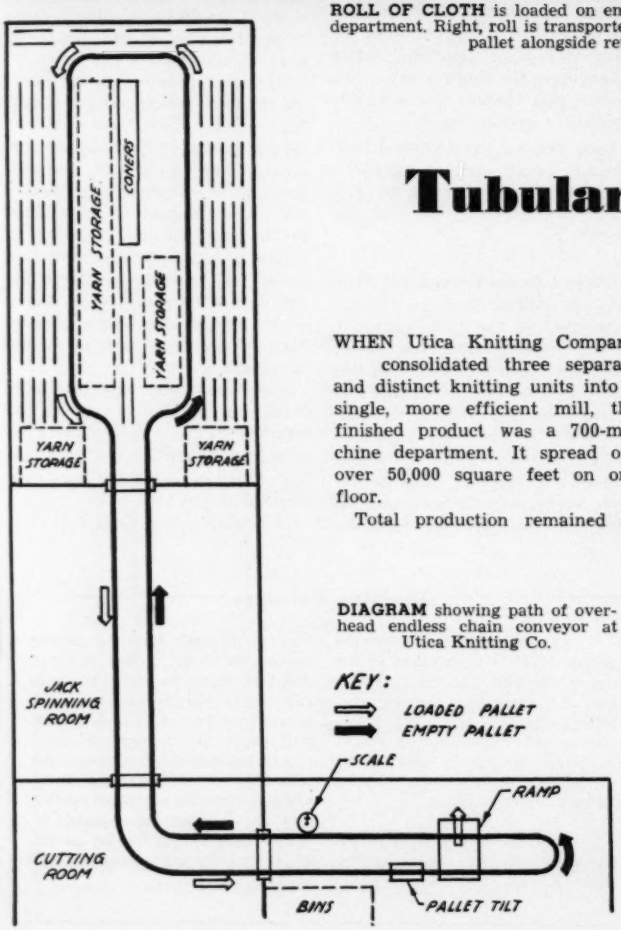
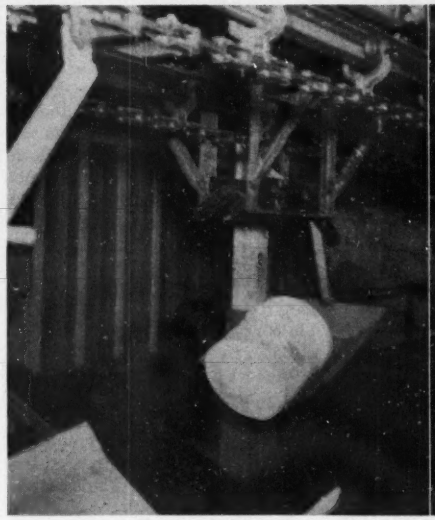


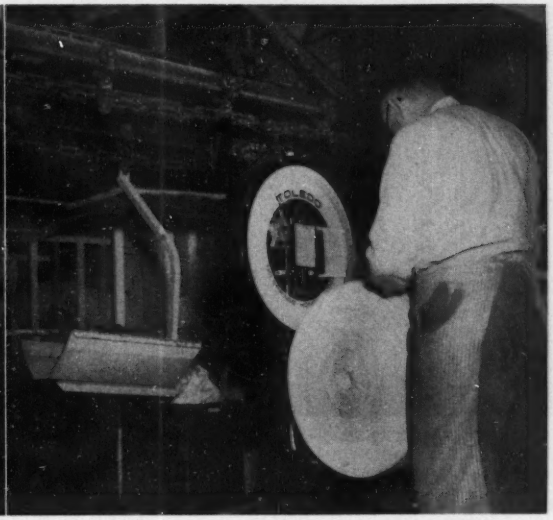
DIAGRAM showing path of overhead endless chain conveyor at Utica Knitting Co.

The consolidation solved some important production problems. Nevertheless, it created an additional one: how to handle the enormous, concentrated output within the knitting department and keep the goods moving smoothly toward subsequent processes.

Initially, five men were assigned to carry rolls from the machines to a central cloth room about 250 feet away. Here, the rolls are dis-



AUTOMATIC TILTER in cloth room discharges load. Roll slides down ramp.



SCALE is adjacent to ramp. Here, roll is weighed, stenciled, and distributed.

Conveyor Profitable Investment

tributed to several mills within the company framework according to directives contained in knitting orders.

It soon became apparent that cloth handling could be improved, and the best way to accomplish this would be by some type of conveyor. The essential ingredients for a rapidly amortizing, continuous materials handling system were all there: two terminals separated by a reasonable distance, and a high rate of production.

Materials handling bottlenecks eliminated; aisles are kept free; need for storage space is dispensed with; efficiency is improved.

EXCLUSIVE

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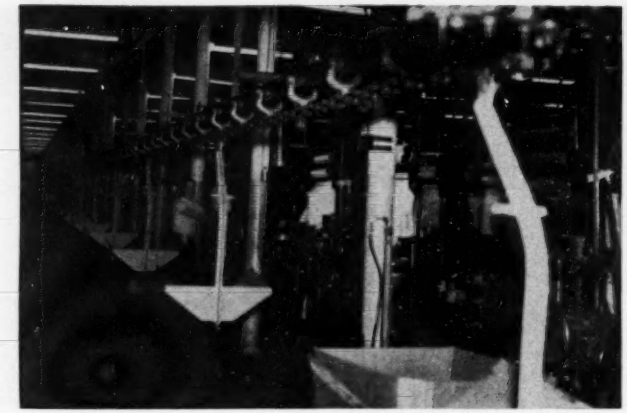
Conveyor. An overhead endless chain type conveyor installed by Mechanical Systems, Inc., measured up to the mill's requirements. Completing a 1440 ft circuit, 120 pallets spaced 12 feet apart are driven by a 1 hp motor. Chain speed may be varied from 6 to 12 feet per minute. The pallets are especially designed, with respect to shape and center of gravity, to carry 30 to 50-pound rolls of different diameter tubular goods. More pallets may be added should production demand.

Pallets are suspended about three feet above floor level while in transit through the cloth room and two center aisles of the knitting department. A pallet tilt section of the conveyor located in the cloth room automatically discharges the load onto a ramp. The roll slides to the floor, is weighed, marked, and stacked. The conveyor ascends to a non-obstructing ceiling height in passage through the area separating the knitting department and cloth room.

From the central cloth room, rolls of knit goods are chuted to the cutting room, dyehouse, or wash room. After wet finishing, the rolls which are to be processed in the same plant return to the cloth room by means of a lift. The



EMPTY PALLETS are conveyed back to knitting department, completing a 1440 ft circuit in two hours.

balance is routed by truck to the other mills.

Piece Identification. In the cloth room, rolls are stored in bins by size, style, and lot number. A color code tag which has been previously stamped in the office with this information is attached to the roll before it is conveyed to the cloth room. Colors are salmon, yellow, and manila. Each color designates one of three finishing plants where the rolls will be transferred to from the cloth room.

The knitting machine operator adds the date, machine number, gauge, and operator number to the tag. Tags are collected by the cloth room checker who weighs the rolls and stencils wet finishing instructions plus necessary identification symbols on them.

The conveyor system has permitted the Utica Knitting Company to realize the greatest possible benefits accruing from consolidation. By eliminating handling bottlenecks, production limits are easily attainable. Cloth is transferred out of the knitting department as quickly as it accumulates. Aisles are kept free. The need for goods storage space in the knitting area is dispensed with. Mechanical handling has not only supplanted the five men formerly required, but also, it has resulted in hithertofore unobtainable levels of efficiency.

AATCC Reports on Research Projects

Detergency. Much work remains to be done in the field of standard soils and detergency tests. The Detergency Comparator has been established for predicting performance of detergents under actual mill conditions. Further work on cotton and rayons will soon be available.

Light Fastness. A Hunter Small Color Difference Meter was bought and considerable work has been carried out on dyed and other material on this, our Photovolt, and the General Electric recording spectrophotometers available at the Institute. Attempts are being made to correlate the results obtained by these instruments on the same samples.

Stability of Wool Oils. Tentative standard test methods on stability of wool oils have been adopted and will appear in the AATCC Year Book.

Water Fastnesses. Fastness to sea water and chlorine water standard tests have been submitted and have been placed before the General Research Committee for adoption as suggested standards for the textile industry.

Wool Scouring. Tentative standard methods of continuous wool scouring have been set up and will be reported in the proceedings with a view to adoption, enlargement, or further study.

Perspiration. There is dissatisfaction with the present cumbersome and expensive tentative test. Reduction in cost and working time of testing is in process.

Water Repellency. Water resistance work completed on rain tester and Skinkle tester has worked out errors and discrepancies so that common language is used by all. The improvements in the rain tester have simplified evaluations.

Flammability. Improvement on the testing instrument as well as on the method has placed this project squarely up to the federal agencies for adoption, and this work is considered completed.

Material Stability. Shrinkage and elongation of materials results are combined or complemented with work on the Dynamic Dimensional Change Meter and various washing machines.

Accelerotor. The Accelerotor, devised and engineered by the Association staff, has reduced washfastness testing time 75 per cent. In addition, the "washdown" factor was definitely proven to be mostly

Wool Carders Meet in Providence

Consider vacuum stripping, tape performance, and methods of obtaining higher production.

Staff Report

VACUUM stripping, tape performance, and card production were main topics of discussion at the seventh semi-annual meeting of the Carders' Guild Section, National Association of Woolen and Worsted Overseers, held in Providence last month.

Ernest Clark, Abington Textile Machinery Works, spoke extemporaneously on the subject of vacuum stripping. Commenting on the time and labor saving features of automatic vacuuming, Mr. Clark stated 'Woolen mills can't operate card rooms profitably without vacuum waste collection." (See TEXTILE INDUSTRIES, September, 1949, Page 93.)

Tapes. The perennial problem of tape maintenance and longevity came under scrutiny of the 150 assembled carders. One card room supervisor asserted that 15 different synthetic tapes were tried in his mill over a three-year period, and not one emerged completely "fool-proof." Among the defects noted were brittleness and cracking in three days to three months, spreading of tapes, and a tendency for stock to slide off such tapes. This last condition was somewhat alleviated by doubling the speed of the smooth roll under the dividing roll.

Other comments on tape performance are briefed here:

Foreign manufactured leather tapes perform comparably with domestic tapes. No difference in running time has been evident.

European tapes and domestic tapes have dropped in quality during the last few years, probably due to shortage of necessary type leather.

Domestic tape manufacturers are not talking price any more. Quality is now stressed—an indication that good tapes are not available at the old prices.

It is difficult to make valid comparisons. The nature of lubricants has changed, and new varieties of blends have been introduced; each being a factor in tape deterioration. Oleic acid components of wool oils attack combinations of neoprene and gum rubber, while synthetic fibers "dry out" tapes.

Waterproof glue is an absolute necessity in making tape splices since greater percentages of water are being used in present emulsions.

Manufacturing quality of tapes seems to have lowered. One tape with a crooked splice caused a jolting motion whenever the splice passed over the dividing roll, resulting in a short life for the tape.

A new English synthetic tape is reported as turning in a good record at a southern mill. The tape has been operating for eight months, producing none of the common complaints.

Tapes must be selected for a given mill situation depending on character of the fiber, emulsion, and card.

Preferred Ring Doffers. During discussion on tapes, one carder asserted his preference for ring doffers. He cited his experience with a ring doffer, 48 rings on two drums, 2 up and 2 down, running at 20 turns, producing 125 to 140 pounds an hour. The ring doffer has a life expectancy of 5 to 6 years.

Waste savers were claimed to be lowering floor sweeps 2.8%. A side-by-side test of a 48-in. ring doffer card equipped with waste saver and a similar card without one showed 5.3% floor sweeps for the former and 8.5% floor sweeps for the latter.

Card Production. Higher rates of production are being obtained with 48-in. and 50-in. doffers on tape condenser cards. All other factors being equal, a 36-in. doffer card produced 65 pounds an hour as compared to 107 pounds an hour produced by a 50-in. doffer, one mill reported. Another mill reported somewhat the same results for a similar test, while a third mill told of increasing production 20% by installing a 48-in. doffer on a 60-in. cylinder card—without speeding-up the cylinder. (See TEXTILE INDUSTRIES, March, 1951 page 94.)

The use of relatively short staple stock will permit speed-up of the cylinder, it was claimed.

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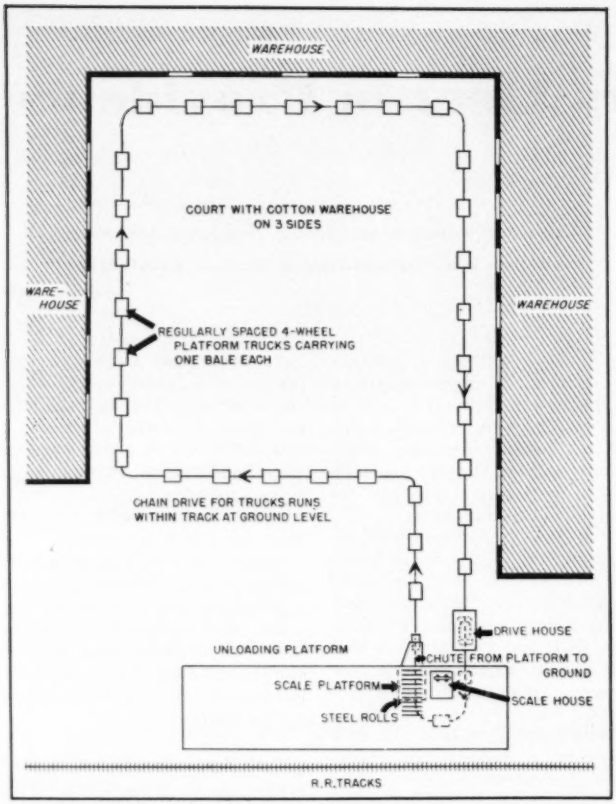
abrasion by this machine. It is a small high-speed (up to 15,000 rpm) instrument that produces in 4 minutes a color loss equivalent to 30 commercial launderings.

Dynamic Dimensional Change Meter. A new instrument, the Dynamic Dimensional Change Meter, was developed at the Association's Lowell laboratories. This permits a strip of cloth (any fiber or mixtures) to be observed in the instrument for shrinkage or stretch while under water, while drying or wetting, while in atmospheres of any desired humidity from bone dry to 95 per cent or more relative humidity.

Mechanical



LAYOUT of mechanical bale handling equipment in use at Joanna Cotton Mills Company.

A COMBINATION weighing and conveying system for handling bales of cotton from unloading platform to cotton warehouse has recently been installed at Joanna Cotton Mills Company.

Joanna's cotton warehouses are built on three sides of a court, as shown in the plan view drawing. The unloading platform is located in front of the open side of this court. The materials handling problem involved is to weigh the bales on the platform, lower them to the ground level, and then move them to the warehouse door closest to the location at which they are to be stored. The manner in which this problem has been solved at Joanna is ingenious and time saving.

Chain Conveyor. The major handling device involved is an endless chain laid out as shown in the accompanying drawing. It extends from the unloading platform, past all the warehouse doors, and back to the platform to complete its circuit. The chain runs within a metal housing laid on the ground

DESIGN OF CHUTE (left), bale rest at foot of chute, and empty truck in foreground. Center, three stages in the sequence of handling. Bale in far background is weighed on roller-platform scales. Bale in center is being loaded onto platform truck. Bale in foreground is being transported toward warehouse.

Bale Handling Speeds Unloading

Joanna Cotton Mills' combination weighing and conveying system for cotton bales described.

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as a track. This housing is split at the top throughout its length so that spaced lugs on the chain can extend upward through the housing. These attachments to the chain are so designed that they fasten to the bottom of four-wheel platform trucks, thereby moving the trucks around the pattern of the track.

The trucks, moved by the chain, are spaced about 20 feet apart and move at a constant speed of fifty feet per minute.

Chain Drive. The endless chain and the platform trucks it pulls, are driven from a 7½ hp motor turning through a Reeves variable speed transmission and a Palmer-Bee worm gear speed reducer. The equipment is housed in a small drive house located on the route of the chain between the unloading platform and the warehouses. By changing the pitch of the sheeves on the Reeves transmission, it is possible to change the speed at which the chain, and consequently the platform trucks, move about their circuit.

All of the driving equipment is located above and beside a pit in the drive house, so the motor, the transmission, and the speed reducer are easily accessible on all sides for lubrication and maintenance.

Weighing Equipment. A new weighing system has been built into the unloading platform. A steel roller conveyor was constructed in the floor, the end area of this roller conveyor being the platform for the scales. Whenever a bale is rolled onto this section of the roller conveyor, its weight appears on the Toledo "One Spot" scale indicator located in the scale house immediately alongside.

Operation of the System. Bales of cotton on the unloading platform are placed on the roller conveyor and pushed, one by one, to the scale section. After the weight and bale number have been recorded by the operator inside the scale house, the bale is given a push over the edge of the platform

BALES move past the warehouse doors (left) where they will be unloaded as desired. Right, the bale has been taken from the platform truck and is ready to be lifted and moved by the warehouse fork truck.

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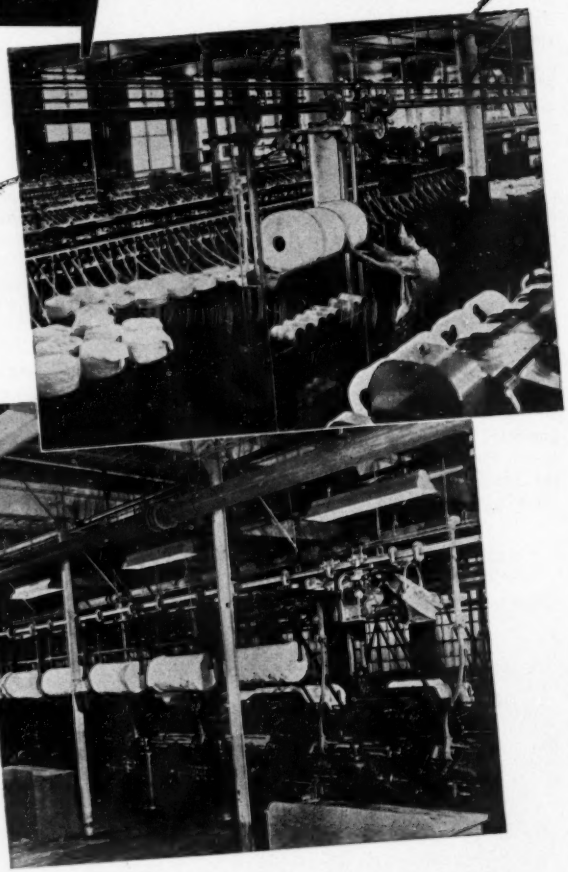

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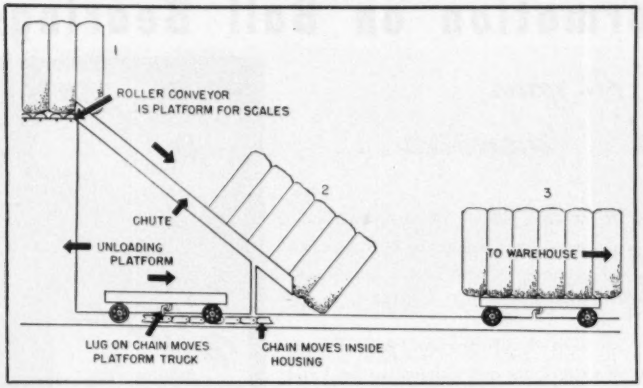
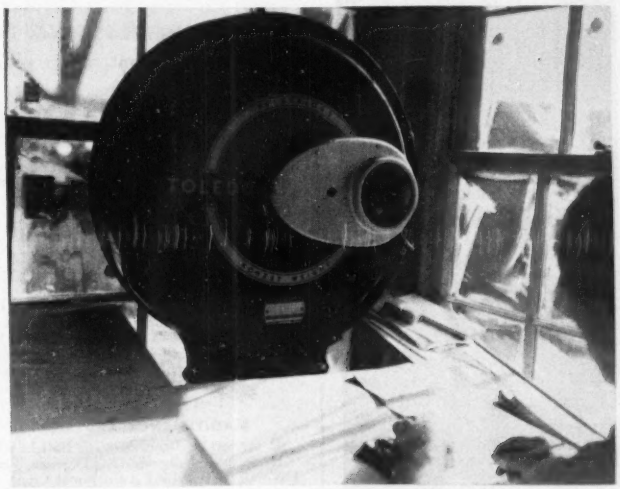


THREE STAGES in loading bale onto chain driven platform truck. (1) Bale is on scale section of roller conveyor on unloading platform. (2) Bale has moved down chute; is now ready to be picked up. (3) Chain driven platform truck has moved under bale, loaded itself and is moving toward warehouse.



SCALES are located in the scale house where operator not only records the bale number and weight but also may stop or start the conveyor chain, using a switch at his right.

so that it slides down an inclined sheet metal chute to the ground. This chute is directly above the track which houses the chain conveyor, and the bale rests in an inclined position against the chute until one of the platform trucks comes under the chute, contacts the bale, loads itself, and carries the bale toward the warehouse. A man stands at each side of the chute to help center the bale on the passing platform truck and to take a sample of the cotton from each side for checking and testing. However, there is little heavy work for these men in that the bales rest at the bottom of the chute, and they are in such a position that the platform trucks practically load themselves.

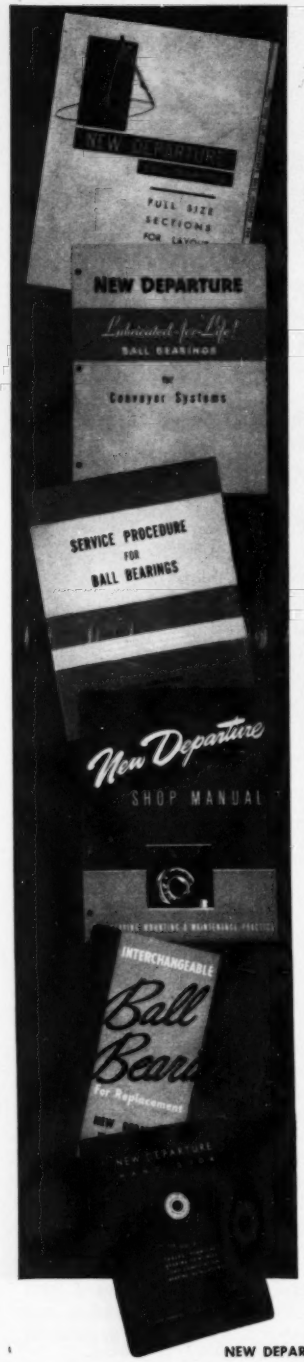
When the bales reach the warehouses, they are unloaded from the trucks at any door desired. They are usually pulled off the trucks with bale hooks and then picked up and stacked with powered fork trucks.

Controls. Stopping and starting of the chain driven trucks is handled from a switch located inside the scale house. The unloading overseer can, from his desk, read the scale, record weights and bale numbers, and stop and start the conveyor system. From his desk he can direct and control the whole unloading operation.

Results. The use of the unloading system at Joanna has considerably speeded the unloading operation and has reduced labor costs as well. It is now possible to unload and deliver at the warehouse door, one bale every 25 seconds. Where it formerly took about 80 minutes to unload 100 bales, the job is now done in 50 minutes; sometimes in even less. Most of the heavy labor has been eliminated.

The system was designed and built by Palmer-Bee Co., and was first put into operation in August, 1950. The management of Joanna Cotton Mills Co., is pleased with the work the system is doing, and indications are that it will turn out to be a profitable investment.

Complete Information on Ball Bearings



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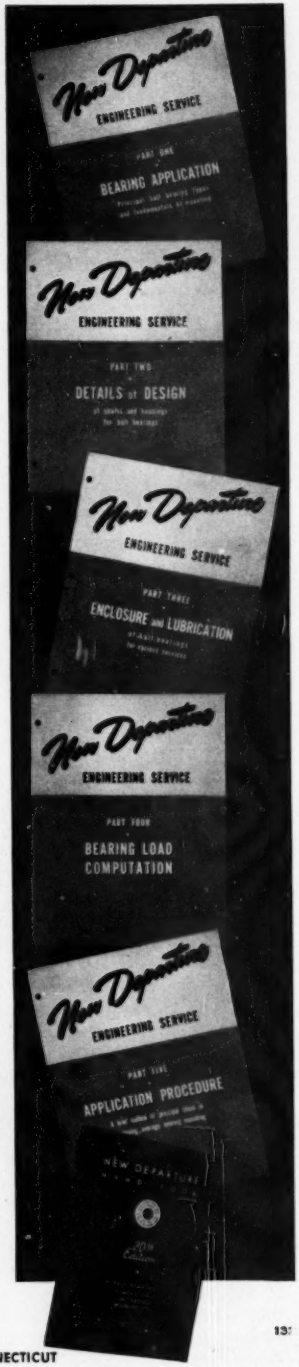

NEW DEPARTURE
BALL BEARINGS

Nothing Rolls Like a Ball

NEW DEPARTURE • Division of GENERAL MOTORS • BRISTOL, CONNECTICUT

MILL MAINTENANCE MEN, master mechanics, and superintendents throughout Alabama met in Birmingham at the Chamber of Commerce building to discuss mechanical, electrical, and supply problems and practices.

Alabama operating executives

Discuss Maintenance Problems

REPORTED IN THIS ISSUE: Comments on metallizing, compressed air for cleaning, machine shop personnel, maintenance of fluorescent light fixtures, maintenance of motors, starters, and transformers. For discussion of centralized lubrication, village maintenance, and humidifier maintenance, see the August issue.

Staff Report

ALABAMA Textile Operating Executives met in Birmingham, Ala., on Saturday May 12, at the Chamber of Commerce Building. R. B. Horsley, cotton mill manager, Pepperell Mfg. Co., Pepperell, Ala., general chairman, presided at the meeting where mill men gathered to discuss mechanical, electrical, maintenance, and supply problems and practices.

Guest speaker at the meeting was S. W. Quisenberry, manager maintenance sales, finishes division, Du Pont Co., who spoke on the importance of protective coatings in mill and village maintenance. Emmett Warren, vice-president, Avondale Mills, Sylacauga, Ala., conducted the discussion forum.

J. Wilson Patterson, superintendent, Tallassee (Ala.) Mills, was elected to serve as general chairman of the organization, and Henry Lanier, general superintendent, Cowikee (Ala.) Mills, Inc., was elected to serve as vice-general chairman.

Metallizing. The discussion forum opened with a question regarding the cost and advantages of metallizing various parts of mill equipment.

Twelve mills reported experience with metallizing, and in all instances good results were obtained, except in applications on keyed shafts. Advantages claimed were: less cost than new parts; saves time; satisfactory repairs. One answer indicated that metallizing costs on small jobs were more than the cost of new parts; another stated that metallizing is more expensive than arc welding.

R. B. HORSLEY, cotton mill manager, Pepperell Mfg. Co., Pepperell, Ala., general chairman, presided at the meeting. He was commended for his service in office upon election of new officers.

An interesting experience related by one mill follows: "During the last war one of our large compressors, a 17 x 17 duplex, scored the crank shaft at the main bearing. A new shaft would have cost approximately $600.00, and the delay in getting delivery was four months. (Our metallizing equipment cost less than $500.00.) We metallized the scored shaft, and it is still running five to seven days a week. This one job alone

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Sylvania Cellophane MS-1 in the 450 gauge is the overwrap for this pillow case package . . . prevents soiling . . . stands up under handling.

5 important properties that mean successful textile packaging:

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★ **Durability** ★ **Low cost**
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Manufacturers of cellophane and other cellulose products since 1929
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more than paid for our equipment."

A list of parts which have been satisfactorily metallized for mill service is given in the accompanying tabulation.

On a trial installation of metallized sand rolls, six looms showed a saving of one yard each per doff, according to the superintendent of a weave room. It was explained that slack cloth was not allowed in the cloth room. This mill has plans to metallize all sand rolls because of the good holding surface provided by the finish. A graphite-in-oil solution is applied immediately after metallizing parts which are to be machined.

Compressed Air for Cleaning. During the discussion on compressed air pressures one man asked what type nozzle is best for fast cleaning. One answer suggested a large hole or about a 3/16-inch orifice, depending upon air pressure, for best results. Another man suggested a 5/32-inch hole for use with a pressure of 85 pounds.

Someone asked what the difference would be if a ⅜-inch instead of a ½-inch hole were used. According to one speaker, the volume of air passing through the orifice would be greater and clean a larger area. This mill uses a reel on the wall to keep 50 feet of hose off the floor, and a small diameter hose is utilized with less air volume and pressure.

At this point the discussion deviated from air cleaning onto the subject of steam cleaning. In one instance a steam jenny was used to clean looms in less than one-third the time required when other methods were used. Burlap bags were placed on the floor and curtains were placed around the equipment being steam cleaned.

Another speaker told of using a 30 hp vacuum cleaner to clean 200 looms. Another vacuum cleaner was used to clean 150 looms, and this man said the machines did a good job of cleaning; however some work is being done to improve the nozzle attachments.

Staff in Machine Shop. In discussing the number of persons to be retained regularly in the machine shop, four mills favored maintaining a maximum force to make as many parts as they could. Six plants favored retaining a minimum force for emergency and maintenance repairs.

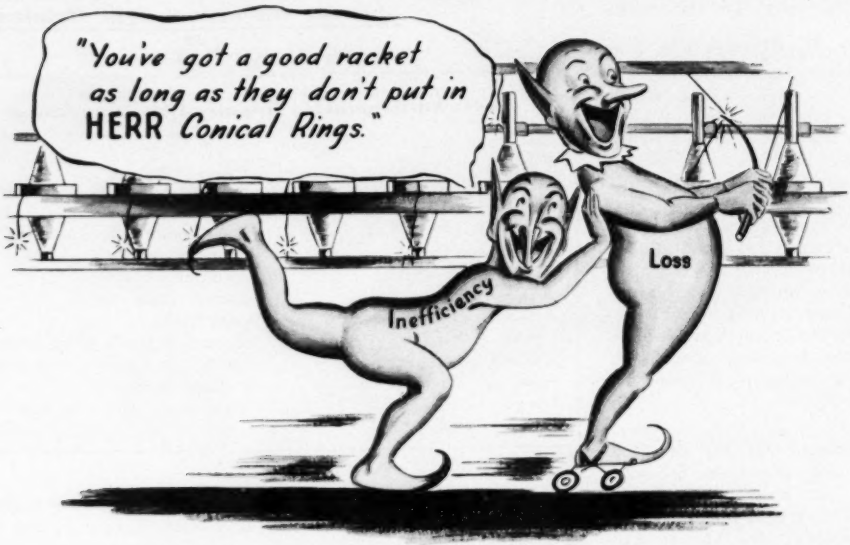
One man's comments on the subject follow: "It is profitable to do small wiring jobs, plumbing, and other incidentals when the entire machine shop force is not busy otherwise. There is no way to figure the actual return on shop maintenance without figuring the production loss in waiting for repair parts. The function of the shop can't be defined in terms of cost of making parts unless value of production is figured on a basis of the time saved."

Parts Satisfactorily Repaired by Metallizing

Worn motor shafts from cards	Slasher delivery rolls
Feed roll journals	Warp beams
Doffer shafts	Squeeze rolls
Sprocket shafts	Loom beams
Calender rolls	Loom motor rotor shafts
Rocker shafts	Loom sand rolls
Slubber steel rolls	Loom crank shafts
Straight rolls	Battery studs
Picker feed rolls and calender rolls	Cam shafts
	Studs and shafts of all kinds
Upright shafts in spinning	Shafts on pumps and water pump repairs
Steel rolls in spinning	
Copper size rolls	Compressor shafts up to 6"

Data on Compressed Air for Cleaning

Mill No.	Lb Air Pressure Maintained	Measures to keep water out of air lines
A	70 - 80	Cool air to lower than room temperature; use separators and storage tank.
B	75	.....
C	70 - 75	Filters and blow down valves.
D	80 - 90	Traps; after-coolers; stone filters.
E	75 - 80	Stone filters.
F	90 - 100	After-coolers; proper grading to lines to traps; stone filters. Admit proper amount of oil to compressor cylinders.
G	65	Moisture traps; tank drainage.
H	80	Filters; storage tanks drained; cool receivers.
I	70	After-coolers, air filters; condensate traps; correct flow of oil to compressor cylinders.
J	70	After-coolers; air traps.
K	35	Water traps; air filters; condensing tanks; proper lubrication of compressors.
L	45 - 50	After-coolers; water traps; proper compressor lubrication.
M	60 - 80	After-coolers; separator between compressor and receiver; filters.



You have something there, fella! Little lost times of yarn breakage add up mighty fast . . . shift after shift, day after day, week after week.

Those little piddlin' losses don't take long growing up. If you saw them suddenly as one grown-up loss, things would pop plenty fast till it was corrected.

HERR Conical Rings will reduce yarn breakage losses from the moment you shift over to them because the bottom foot of the traveler is kept FREE to act as a compensating factor to the yarn.

This is only one of several features which have made the HERR Conical Ring a favorite the world over with mills insisting on Quality Spinning and Twisting of Wool, Worsted, Nylon, Rayon and Blended Yarns of all types, and Cotton Twisting.

One of our representatives will be glad to discuss your ring problems with you.

HERR MANUFACTURING CO., INC.

318 FRANKLIN STREET **BUFFALO 2, NEW YORK**

Maintenance of Fluorescent Light Fixtures. The frequency of cleaning fluorescent light fixtures ranged from no cleaning to removing and washing once every eleven weeks. Six mills had planned schedules for cleaning and maintenance of light fixtures. In several instances the respective mill departments were designated to clean and service their light fixtures.

A mill containing 4948 fluorescent fixtures and 138 incandescent fixtures reported an annual unit cost of maintenance per fixture of $2.77. The program was set forth as follows:

"Cleaning, relamping, and replacing starters are planned on the basis of an annual program. The frequency of cleaning is once every eleven weeks, and burned out tubes and starters are replaced once each month. This program is carried out by a crew of three trained men.

"The reflector is removed from the fixture and washed with soap and water in a vat measuring 20" x 72" x 20" deep. This cleaning vat is mounted on wheels and can be located in the area where the lights are cleaned. Cleaning time averages from 3½ to 4 minutes per fixture, depending on the location of the fixture. The time required for relamping is 48 manhours once each month.

"We maintain 30 to 35 foot candles for weaving and 18 to 22 foot candles for spinning and carding. We figure our lighting level drops about 15 per cent between cleaning intervals."

Maintenance of Motors, Starters, and Transformers. In answer to a question asking for experience on maintenance of motors, starters, and transformers in mill service, several mills submitted detailed written answers.

Mill A. We have approximately 3500 motors installed in our plant. They range in size from fractional hp to 100 hp. These motors are 3-phase, 60-cycle, 550-volt, squirrel cage, induction type, with the exception of a few small single phase and d-c motors.

Our starters consist of manual across-the-line, manual reduced voltage start, automatic reduced voltage start, and magnetic across-the-line types.

The power transformers are connected closed 13,800 to 575 volts. The lighting transformers are 575 to 230-115 volts, single phase. We use a card system as a means of keeping a record on each machine. Inspection dates and information concerning the condition of the apparatus are recorded on the cards.

We consider three things most important in keeping our motors running: (1) keep motor clean; (2) keep overloads to a minimum; (3) lubricate bearings properly.

The motors are cleaned with low pressure air once every three weeks. The motors are taken apart once each year, and the windings are washed with carbon tetrachloride and painted with air drying varnish. We test our motors twice yearly with an analyzer. This test includes hp loads, amps per terminal, power factor, terminal voltage, and air gap clearance. A record of the load tests is put into book form and sent to top management who sees to it that any overload or bad condition is corrected.

Each sleeve bearing motor is checked once every two weeks for proper oil level. The oil is changed, and the bearing housing is flushed out once each year.

We have two types of ball bearings—the self-sealed, pre-lubricated type, and bearings with a grease fitting and relief plug on the outer bearing housing. The pre-lubricated bearing is completely dismembered once every three years, cleaned with white gasoline, and lubricated with a small amount of high stability ball bearing grease.

The bearings with grease fittings are lubricated twice a year with a hand-operated pressure grease gun. The relief plug is removed, and the bearing is lubricated while the motor is running.

An inspection of the motor starters is made twice each year, including checking contacts, contact springs for proper tension, and loose connections. The protective overload devices are checked to make sure they are in working condition. Heater units are also checked for proper ratings. Oil levels are checked in the oil starters. The oil is changed every two years. The starters are cleaned once every three weeks with low pressure air.

We inspect our transformers once every three months, including load test, insulation test to ground; also insulation test, primary to secondary. During these inspections the bushings and tanks are cleaned. A complete inspection is made once each year. The tanks are opened, and the interior is inspected for formation of sludge. A sample of oil is taken from each tank and given a breakdown test. Oil breaking down at 20,000 volts or less is replaced.

Mill B. Open motors are cleaned with compressed air by the various departments. Lint and dust are blown from motor windings once each week while the motors are stopped. All ball bearing motors are greased once a year. All sleeve bearing, ring-oiled motors are oiled or checked once a week. Waste packed loom motor bearings are oiled once a month. Rotor clearances are checked once a year on sleeve bearing motors of 20 hp or more.

We have no regular schedule for checking windings or clearances on 10 hp and smaller motors, which are usually ball bearing motors mounted on the floor.

Overload relays are operated to see if they are sticking, and all connections are checked for looseness at this time. Oil is changed about once each year, depending upon dirt and lint conditions.

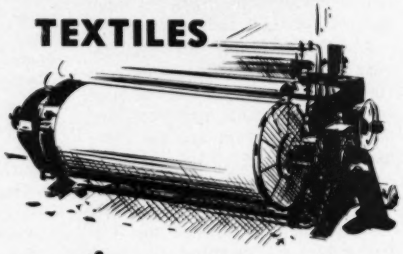
The smaller starters, such as spinning motor magnetics, are checked and cleaned every six months.

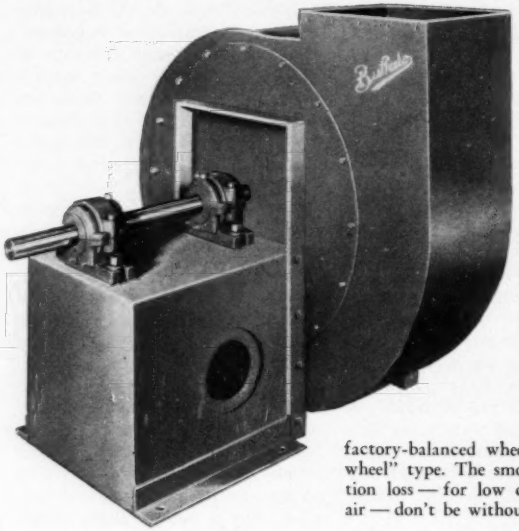
Transformers used in mill operation are checked yearly for bad oil. The small transformers feeding individual blocks of houses in the village, where it is known that there is no overload condition, seldom give any trouble, and once each five or six years should be often enough to check these.

(*Continued next issue*)

Clean, Fresh Air:

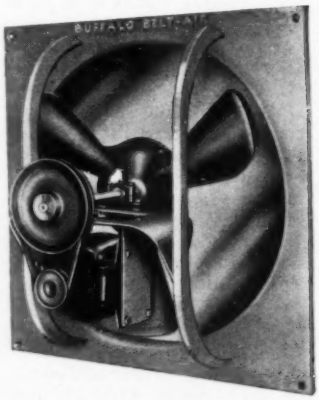
FOR BETTER QUALITY TEXTILES





"Buffalo" INDUSTRIAL EXHAUSTERS

"The better the dust control in your air, the better the quality in your product" — and efficient exhaust is fundamental to a cleaner atmosphere. "Buffalo" Industrial Exhausters can handle airborne dust, smoke, fog and fumes—or materials you wish to remove pneumatically. These sturdy, all-welded steel plate fans have factory-balanced wheels with blades shaped for efficiency — not the "paddle-wheel" type. The smooth, all-welded housing and blades mean minimum friction loss — for low operating cost and easy cleanout. Clean air is profitable air — don't be without dependable "Buffalo" exhaust. Write for Bulletin 3576.



"Buffalo" BELT-AIR FANS

Flexibility and low cost are the big advantages in ventilating with "Buffalo" BELT-AIR FANS. In 24", 30", 36", 42" and 48" sizes (4400 to 19,000 cfm), they fit a wide variety of local ventilation needs. Their husky die-stamped square panel frame makes them easy to install in walls. Their die-stamped blades are shaped for quiet, efficient delivery. BULLETIN 3222-F describes these and other ventilating units to suit many applications. Your copy will be mailed on request.

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VENTILATING · AIR WASHING · AIR TEMPERING · INDUCED DRAFT · EXHAUSTING
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Wartime Difficulties—

strikes as usual

By RINGGOLD ARDEN

THE TEXTILE INDUSTRY has been the scene of extensive and violent labor disturbances during the past few months, and more trouble may be in the offing. No sooner had the federal government announced a decision to control prices than the labor unions, with great unanimity, agreed that this would be fine so long as the price of labor was not affected. If the government could just keep the sale prices of things under control, and let every labor union member get a 10 or 15 per cent wage increase, everything would be fine. Everything has been fine a number of times since the skyrocketing wage-price spiral got well under way in 1945, but it doesn't stay fine.

A lesson that labor unionists can not permit themselves to learn is that wages and living costs are tied inexorably together. Every man's wage is some other man's cost of living.

During the past five years, with uncontrolled prices, such wage increases as have been forced on industry by the labor union monopolies could be passed directly on to the buying public, but with frozen prices, employers can not pass these wage increases on, and will therefore have to firmly resist them. While any such firmness is being belatedly exercised, it has to come sooner or later. There *is* a limit, despite the arguments of the labor unions, to the wage rates that will permit manufacturers to keep their customers.

The parade of big strikes in the textile industry started off with the woolen and worsted mills, and virtually the entire woolen industry was shut down by people trying to defeat the government's efforts to control prices. That these efforts are doomed to futility so long as the government continues to pour inflation into the economic bloodstream is beside the point. The fact that labor union leadership refuses to cooperate with the government in its efforts to hold prices in line is the important thing.

This wool strike was followed by a cotton textile strike in New England, and in both the wool and cotton strikes, the manufacturers capitulated after only token resistance, and agreed to give more money if the government authorities would approve the increases. Then the politicians in Washington had to chew this problem over.

Following this successful foray in New England, the labor tycoons decided to pull a big and punishing strike in the South. They could hardly have chosen a worse time for it, since most mills were loaded with inventory and reluctant to dispose of goods at prevailing prices under the uncertain price and labor policies of the government. Therefore, instead of supinely agreeing to unreasonable requests, the southern mills took the very logical position that if prices were to be controlled, there was no excuse for wage increases in an industry which has probably given more increases in the past 15 or 20 years than any other industry in the country. That many of these were not only needed, but past due, is cheerfully admitted by practically everyone connected with the textile industry, but there *is* a limit to the number of wage increases that an industry can stand, although the labor union people seem to doubt this.

The southern strikes seem to have been rather generally called off, but may flare up again any time. If the present state of substantial mill inventories continues, there is little doubt that the southern textile industry can maintain its position that wages must not go up unless prices can go up too. On the other hand, if there is a stepped-up government demand for textiles, and shortages should develop, these labor union people can set about anew for additional wage demands.

The southern textile industry has thrived and extended greatly during the past 20 or 30 years because it has been relatively free from labor racket domination. There was a very remarkable statement in an editorial appearing in a newspaper recently, to the effect that manufacturers were no longer moving to the South to get away from labor unions. As far as the textile industry is concerned,

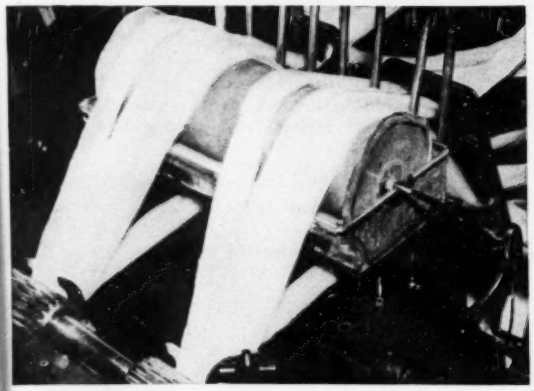
"The textile industry will be ill-prepared for the strains of war with the constant threat of strikes hanging over it."

the ¢ FEW extra ¢ents that make a LOT of sense

When it comes to producing worsted yarn, there is always this important question: Should a spinner spend a few more cents than absolutely necessary when processing top, to try and achieve more efficient production and better finished products? In the case of Nopco* 1656-R, the answer is "yes".

Today; the price of top is the highest in history. Thus the few additional cents involved in the purchase of Nopco 1656-R become insignificant in the face of over-all costs. Moreover, the unique advantages afforded by this remarkable oil far outweigh its price differential when compared to alternatives. Just consider:

NOPCO* 1656-R...



*Reg. U. S. Pat. Off.

1. ***provides excellent lubrication and eliminates static in worsted sliver. Result: no fly from top treated with this oil—fewer ends down in spinning and winding—much less brush waste;***
2. ***increases the drag, and thereby gives a better draft—resulting in more even and cleaner yarn;***
3. ***scours out with phenomenal ease—actually converting into suds when used with alkali, polyphosphate and water;***
4. ***applies equally to all production systems —American, Bradford or French—and is extremely advantageous on pin drafters.***

Yes, it will profit you to use Nopco 1656-R wherever you employ a lubricant in your top-processing procedure. And it will profit you to specify Nopco 1656-R, as a number of spinners already do, whenever you purchase oil-combed top. You'll pay a few more cents above "rock bottom" perhaps, but when you examine your finished yarns, you'll know you have produced high quality products with surprising economy.

NOPCO TRADEMARK EVOLVED THRU RESEARCH

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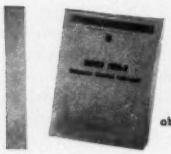

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nothing could be further from the truth. Many a textile plant that has moved to the South did so to get away from the hopeless manufacturing conditions imposed by labor unions in northern states. On account of the tricky workings of some of our federal labor laws, it is entirely possible that these manufacturers publicly gave other reasons for their hegira than flight from the labor rackets, but those of us intimately familiar with the affairs of the textile industry, know that the principal reason in most cases of a textile plant coming South was labor trouble in the North.

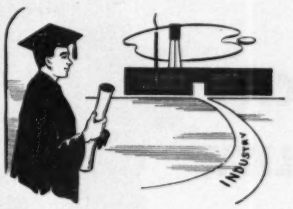
A few weeks ago while the textile strike was going on in the South, a manufacturer from New England visiting in Gastonia expressed the fervent hope that the unions would force the same crown of thorns upon the southern manufacturers that had been forced on his management. He added that if the southern mills successfully resisted this latest demand, and the Federal authorities approved the settlement in New England, he was afraid most of the New England cotton mills still running would have to shut down or move to the South. There *is* a limit to the manufacturing costs that can be imposed upon a concern. There is always in the background a customer who can buy or refuse to buy, and there is always a point at which sizable quantities of customers do refuse to buy.

Both the labor unions and the government are prone to overlook the customer, who is after all the final arbiter of commerce.

The international situation is very grave. Explosive situations exist in several parts of the world. Anything can happen anywhere if the masters of the Kremlin wish to make it happen. Our textile industry needs to be strong, well equipped, and well staffed with willing and enthusiastic workers. Nobody knows when sudden and tremendous demands may be made upon industry. This is no time for professional troublemakers, whether Communists or merely those employing the tactics of Communists, to constantly stir people into violent antagonism to good employment at the highest real wages ever known in the textile industry.

These merchants of discontent have had notably poor success in selling their only stock in trade among the southern textile operatives. They have been all too successful in selling it to the northern mills, as a billion dollars' worth of liquidations eloquently testify. However, skilled and highly efficient fomenters of discontent are not easily discouraged while success promises so rich a harvest.

Most, if not all, of the principal American labor unions seem to have settled upon a fixed plan for a continuing and perpetual inflation. The government seems impotent to oppose this plan, and perhaps the textile industry is not strong enough to oppose it either, but it is heartening to see that manufacturers are at least trying. The textile industry will be ill-prepared for the strains of war with the constant threat of endless strikes hanging over it, like a sword of Damocles.



Textile School Graduates Enter Industry

With this issue, we begin publication of the names of textile school graduates and, if known, the firms by which they have been employed. Other lists will be published as they are received from the schools.—Eds.

Texas Technological College

January 1951

Charles M. Schroeder: B.S. in Textile Engineering (weaving and design major); employed by Goodyear Tire & Rubber Co., Akron, Ohio.

Guillermo Perea: B.S. in Textile Engineering (weaving and design major); employed by Crown Mills, Marcellus, N. Y. After he acquires practical mill experience there he will return to his native land, Peru, where he will be employed by Manufacturas Del Centro, S.A., in Huancayo.

William T. Gregory: B.S. in Textile Engineering; employed by Bemis Bros. Bag Co., Bemis, Tenn.

May 1951

Ralph E. Lacy: B.S. in Textile Engineering (chemistry and dyeing option).

Frank G. Louis: B.S. in Textile Engineering (chemistry and dyeing option).

Henry Louis: B.S. in Textile Engineering; employed by Burlington Mills Corp., Greensboro, N. C.

Tommy L. Randel: B.S. in Textile Engineering; employed by Mexia (Texas) Textile Mills.

Boyce M. Woods: B.S. in Textile Engineering (production option); employed by Sherman (Texas) Manufacturing Co.

St. Hyacinthe (Que.) Textile School

June 1951

Raymond Begin: employed by Dominion Textile Co., Ltd., Magog, Que.

Jean-Paul Blais: employed by Dominion Textile Co., Ltd., Montreal, Que.

Claude Coisne, Armentieres, France; returning to home country for employment.

Raymond Coleman: employed by Courtaulds (Canada), Ltd., Cornwall, Ont.

(Continued on page 223)

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ALL THE VERSATILITY
ALL THE POWER
ALL THE EFFICIENCY

OF A DEEP WELL PUMP FOR SHORT OR MEDIUM SETTINGS

REQUEST FREE BULLETIN
Describing and illustrating Peerless close-coupled pumps. Request Bulletin B-159.

PEERLESS PUMPS

PEERLESS *Close-Coupled* VERTICAL TURBINE PUMPS

CHARACTERISTICS AT A GLANCE:

HEADS
Up to 1000 feet

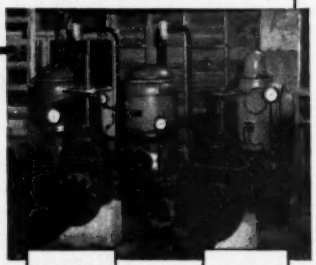
CAPACITIES
Up to 30,000 g.p.m.

H.P. RANGE
Up to 2,500 h.p.

DRIVES
As required; standard electric vertical hollowshaft or solid shaft motors; right angle gear drive; V- or flat belt; combination units.

LUBRICATION
Choice of oil or water lubrication.

NO PRIMING PROBLEMS



INDOORS OR OUTDOORS

LARGE OR SMALL

SPACE SAVING VERTICAL PUMP FOR BASINS, SUMPS, RESERVOIRS AND SURFACE WATER SOURCES SUCH AS RIVERS, LAKES, PONDS

This successful, close-coupled, modification of the Peerless vertical deep well turbine pump, for industrial processes, embodies all the outstanding design and performance characteristics which have made Peerless the leader in the sale of vertical, deep well turbine pumps. Peerless vertical close-coupled turbine pumps are economically applied to a widest range of municipal, industrial and commercial water lifting or boosting and circulation processes, where short or medium pump settings are involved. Plan with Peerless to get the power, capacity and utility of this vertical space-saving pump that will cut your pump overhead with measurable savings. Descriptive Bulletin No. B-159 describes and illustrates its design, performance and applications, write for it today.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
Factories: Los Angeles, California, and Indianapolis, Indiana.
Offices: New York, Atlanta, Chicago, St. Louis, Phoenix, Fresno, Los Angeles; Dallas, Plainview and Lubbock, Texas; Albuquerque, N. M.

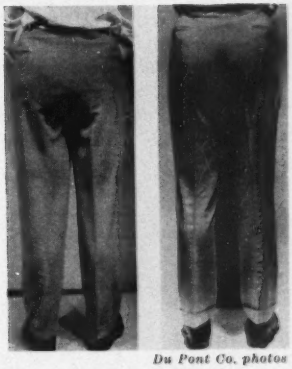
Resilience — *outstanding property of* "Dacron"

THE MOST natural outlets for "Dacron," the Du Pont Company's newest textile fiber originally identified as Fiber V, appear to be in suitings and all types of outerwear, reported Dr. Louis L. Larson, manager of the sales development section of the Du Pont Company's Nylon Division, to more than 200 members of the American Association of Textile Technologists at the Builder's Club in New York City recently.

"Market studies have demonstrated that 'Dacron' has a combination of properties of real value to the textile industry," he said. These properties were enumerated as follows: excellent appearance, with color, drape, and tailoring qualities; wrinkle resistance and press retention, when wet, moist, or dry; dimensional stability; and launderability with little or no shrinkage or wrinkling. All of these add up to great economies for the wearer, Dr. Larson said.

Resilience is an outstanding property of "Dacron." The fiber maintains its high resilience in moist or wet conditions. Under dry conditions "Dacron" and wool have essentially the same initial crease angle (found to be a good indication of the liveliness of a fabric). Dr. Larson demonstrated that "Dacron" retains its crease angle at 90 per cent relative humidity and, under wet conditions, the crease angle is essentially unchanged.

"High wrinkle resistance and press retention under wet as well as dry conditions," said Dr. Larson, "have a profound significance in actual wear. First of all, a suit of 'Dacron' polyester fiber is unaffected—aside from getting wet—when a wearer is caught in a rainstorm.



Du Pont Co. photos

WRINKLE RESISTANCE of "Dacron" polyester fiber is illustrated by these two photos of trousers that were subjected to three days of summer wear. Needless to say, the garment on the left is made of "Dacron" while the one at the right is another tropical suiting.

"After drying," he continued, "the suit of 'Dacron' looks just as it did before it became wet and does not need pressing."

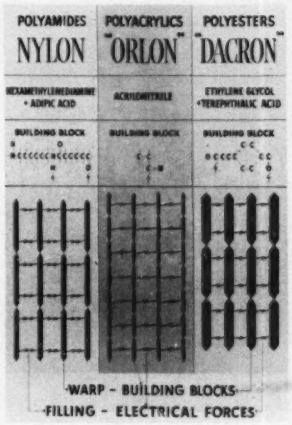
While the ability of suits of "Dacron" to be worn in the rain without wrinkling was termed "meaningful," the real value of the quality comes in humid weather, it was explained. Tests made by 20 wearers last summer, using tropical-weight suits of "Dacron" and other fibers for comparison,

Explanation of Differences in Properties of Nylon, "Orlon," and "Dacron"

It is known from experience that nylon, "Orlon" acrylic fiber, and "Dacron" are diferent with respect to flexibility, resilience, and stiffness. These differences can be explained by the nature of the building units making up individual fiber molecules. To illustrate these differences in properties, an analogy to woven fabrics is drawn.

In these hypothetical fabrics, the warp ends are the long-chain fiber molecules and the filling picks are the forces which for simplicity shall be called electrical bonds between adjacent long-chain fiber molecules.

In the warp of the nylon hypothetical fabric, nylon molecules are light, flexible building blocks bound together at fairly long intervals by electrical bonds. So the "fabric" is flexible, soft, and elastic. The "Orlon" acrylic fiber

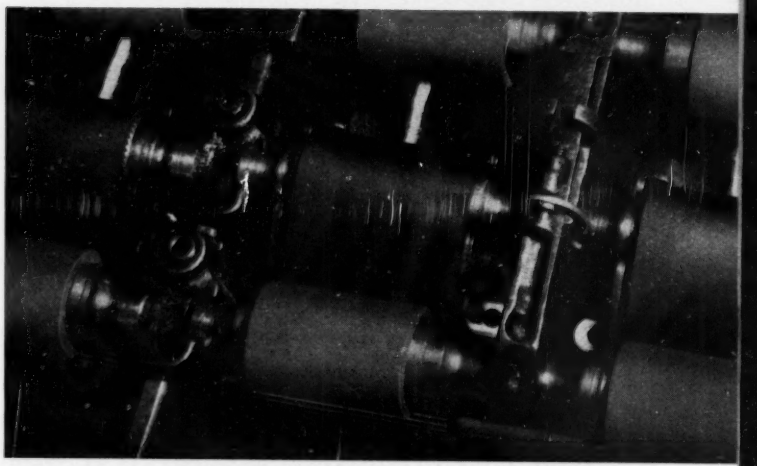


hypothetical fabric represents a configuration in which the molecules of "Orlon" are bound together at shorter intervals because of the initially smaller building blocks used to make "Orlon" polyacrylic fibers. This hypothetical fabric then has a greater number of picks and higher construction so "Orlon" is fairly stiff and resilient.

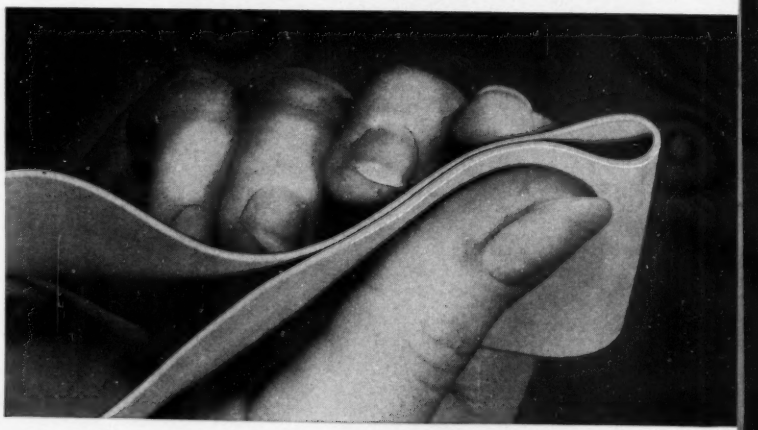
The "Dacron" polyester fiber hypothetical fabric shows that building blocks of "Dacron" are comparatively heavy, stiff, and resilient, and they are bound together in about the same manner as nylon. The stiffness here is produced mainly by the larger cross-section of the individual molecules which contain benzene rings and makes the fiber resist bending and also creates more rapid recovery from bending. Stiffness and resilience are put to use in "Dacron."

SATIN FINISH: Rub your fingers across the surface of an Armstrong Accotex Apron. You'll discover it feels smooth as satin. Each Accotex Apron is ground to the exact thickness you specify and—by a patented process—given this smooth, scuff-resistant surface.

CLEAN-RUNNING: Because Accotex Aprons stay smooth, don't absorb oil or soften from exposure to dyes and commonly used textile solvents they have no tendency to pick up lint. They won't sweat under any mill condition. If you want a durable, clean-running apron, you can't beat Armstrong's Accotex Aprons. Try them on a test frame.

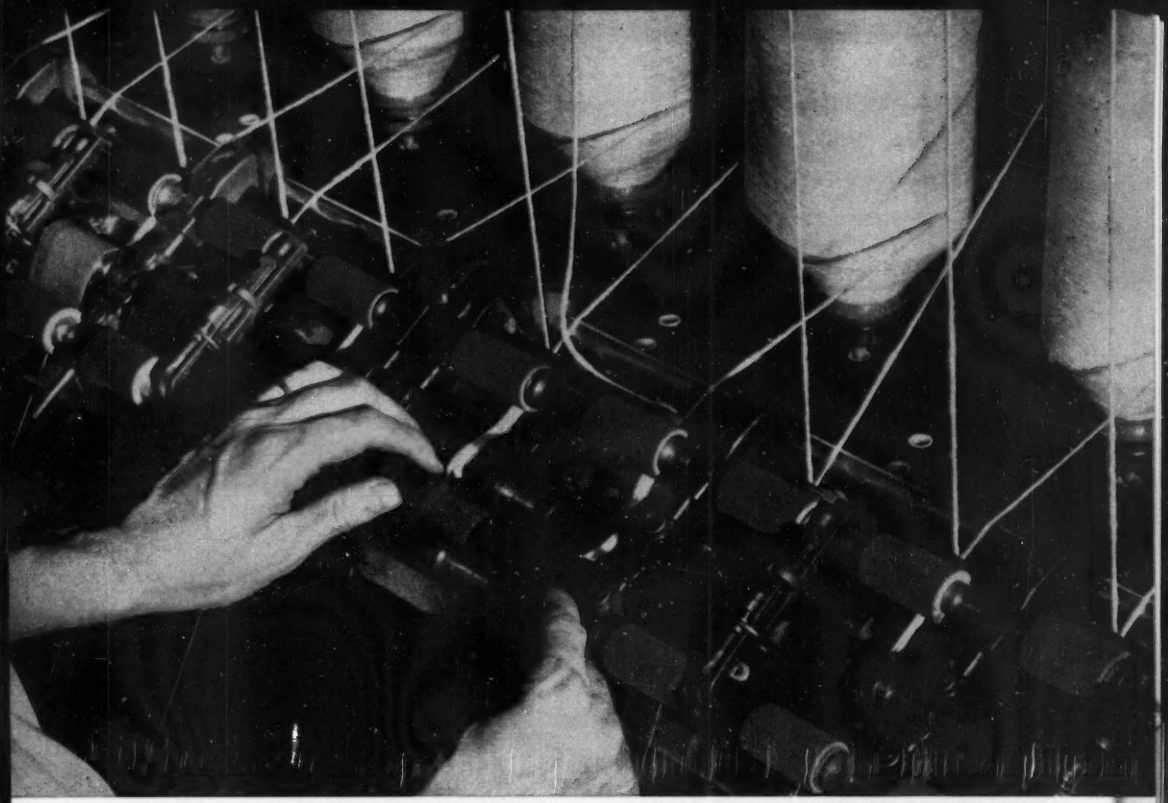


SUPER-FLEXIBLE: Armstrong's NO-750 Accotex Aprons have the extra flexibility and abrasion resistance needed on a single-apron frame. They hug the nose bar without buckling and so insure smooth slip-roll action. If you are considering new single-apron long-draft equipment, be sure to specify Armstrong's Accotex Aprons.



ARMSTRONG'S ACCOTEX APRONS

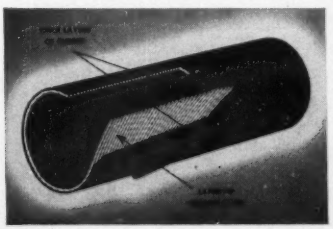
one of Armstrong's complete line of Textile mill supplies



When you put these aprons on they STAY on for years

It has taken years to prove it, but now mills everywhere are beginning to find out that it takes a long, long time to wear out an Armstrong's Accotex® Apron. At overhaul periods, careful examination time after time leads to the same decision: "They're still good. Put them back on."

A Georgia mill, for example, ran a set of NO-700 Accotex Aprons on their Casablanca frames two shifts a day for eight years. At the end of that time the aprons were still free from cracks and roughness, still running as clean as the day they were put on.



The reason Accotex Aprons stand up so well is simply this: They are made in three layers—a special construction developed and patented by Armstrong. Each layer is scientifically designed to perform its own special function.

The outer layer is a seamless satin-smooth drafting surface. It is made of scuff-resistant synthetic rubber specially formulated for good drafting and clean running. A patented treatment given to each apron imparts extra smoothness.

The inner layer is also a seamless sleeve made of synthetic rubber. This is compounded to resist abrasion caused by the nose bar.

Between these specialized layers is a sturdy cord interliner that holds the shape of the apron and absolutely prevents stretching and curled edges. Vulcanized together, these three specialized layers make a rugged apron that lasts for years.

You can get an Accotex Apron for any type of long-draft equipment. Just ask your Armstrong representative to show you the one best suited to your needs. Call him today or write Armstrong Cork Company, Textile Products Dept., 3607 Arch St., Lancaster, Pa. Accotex Aprons are available for export sale.

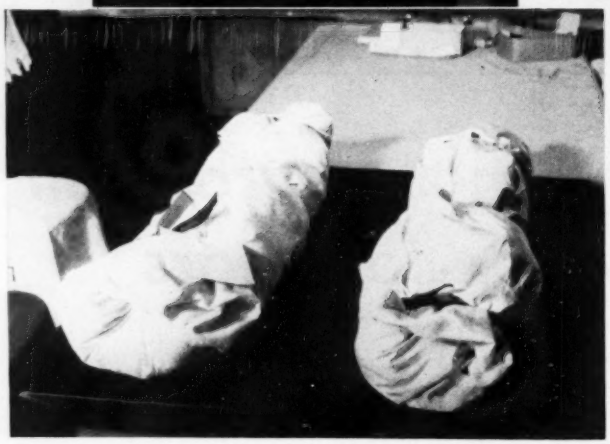
Knitter Hints
No. 35

Prevent Pull Threads Between Operations

UNWRAPPED nylons entice pull threads

THIS takes a little time but guarantees full protection to the hose.

IT'S WORTH IT ! !



EXCLUSIVE

This Knitter Hint appears through cooperation of Charles O. Simms.

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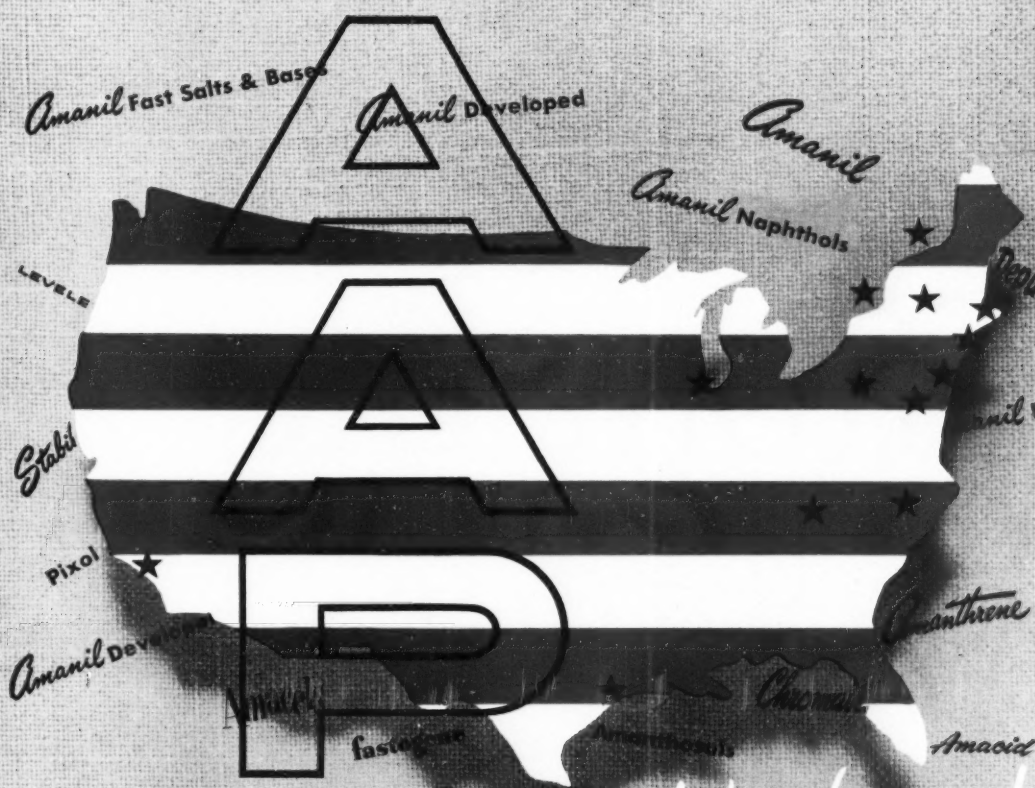
proved the superiority of "Dacron" against wrinkling.

Declaring that "Dacron" is not an all-purpose fiber, Dr. Larson pointed out that when used alone or in blends with other fibers for outerwear, it will contribute significant functional properties. By blending "Dacron" with other fibers, the wrinkle resistance and dimensional stability of the fabric are improved to the extent of the amount of "Dacron" used.

Reviewing the progress made with the fiber since it first appeared in suitings a year ago, it was emphasized that there is still a lot of work to be done.

"Pilling" is one of the problems. Another is static (under conditions of low humidity) which results from low electrical conductivity because of low moisture content in the fiber. "Dacron," like all of the new fibers, presents problems about dyeing. Dr. Larson reported that excellent progress is being made in finding answers to these problems.

In addition to suitings, "Dacron" staple is expected to be used in knitting yarns for sweaters, hose, etc. Blouses, dresses, shirts, etc., will be made from fabrics woven with the continuous filament yarn. Potential industrial uses of the fiber are in fire hose, V-belts, rope, laundry nets, and sail cloths.



pattern for service at the point-of-need

To serve its customers with maximum efficiency, A.A.P. maintains many strategically placed Branch Sales Offices, in addition to its home office in New York City and its 35-acre manufacturing works at Lock Haven, Pennsylvania.

Like the main office in New York City, each branch has its own warehousing facilities and complete application laboratories; thus, dyers, finishers, and printers in all textile centers are assured of convenient sources of supply, as well as prompt and expert assistance whenever special color problems arise.

Behind A.A.P.'s extensive facilities lie almost four decades of constant research and rigid manufacturing control. The benefits of this accumulated experience are yours for the asking. Technicians from our nearest branch will be happy to provide you, at any time, with full information on A.A.P. products and service.

AMERICAN ANILINE PRODUCTS, INC.

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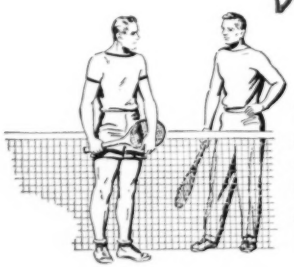
Chicago, Ill. • Los Angeles, Cal.
Chattanooga, Tenn.
Dominion Anilines & Chemicals, Ltd.
Toronto, Canada • Montreal, Canada

look at it from the retailer's angle



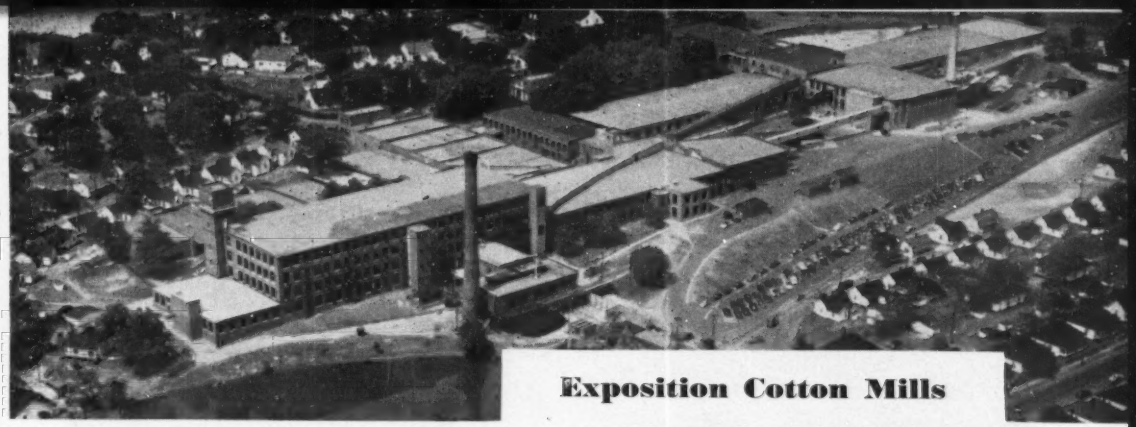
"They like the fine quality fabrics produced with those new Reading Machines. Why should we settle for less? And we can get 15 or more dozen pairs every 8 hours!"

• • •

The new "Reading" Machines are producing full-fashioned stockings of superior quality and at higher speeds than ever before possible. Many exclusive "Reading" features give higher precision in operation and greatly simplified control . . . 30 sections . . . 51 and 60 gauge.

TEXTILE MACHINE WORKS • READING, PENNA.

The "READING" Full-Fashioned Knitting Machine



Exposition Cotton Mills

An Old Mill — Comes to Life

1892 - 1942

EXPOSITION COTTON MILLS, Atlanta, Ga., were established in 1882, immediately following the Cotton States Exposition, held the previous year. A group of Atlantians met on January 10, 1882, and inaugurated plans to purchase the Exposition buildings and grounds (pictured below) as a site for a cotton textile mill. The original stock was subscribed by seventeen men, and of the original stockholders, four names are still among the shareholders, represented by their descendants.

Some of the buildings included in the original purchase of the Cotton States Exposition structures are still being used by the Exposition Mills today, although many changes have been made from time to time.

Hugh T. Inman was the first president of the mill; W. B. Cox was vice-president; and the directors were: R. H. Richards, Evan P. Howell, Richard Peters, R. D. Spalding, W. P. Garrett, R. M. Clarke, and T. L. Langston.

Exposition Cotton Mills justified the faith of its founders. Through prosperity and panic, wars and in peace, the mill survived and grew.

1943 - 1951

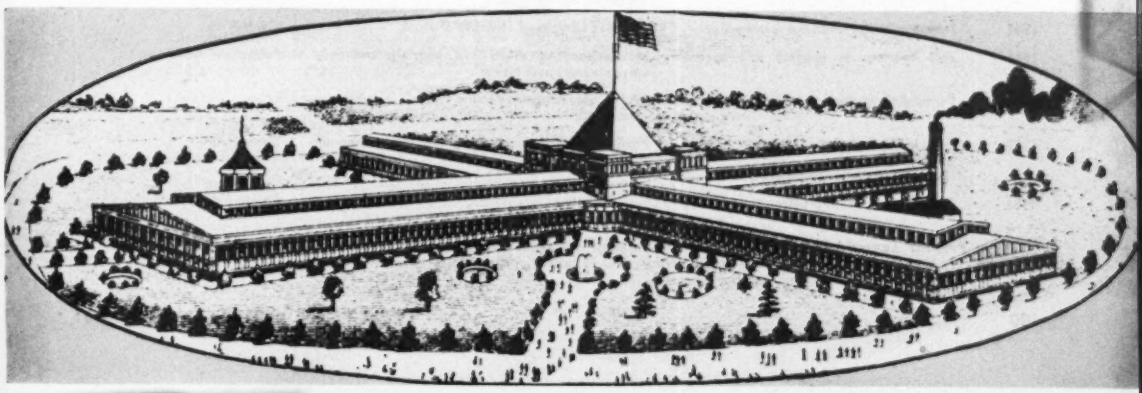
THE PERIOD from 1943 to the present day represents an important era of transition for Exposition Cotton Mills in that it has undergone a major "face-lifting" in terms of production machinery replacements, additions, improvements, and extensive changes in the physical plant as a whole.

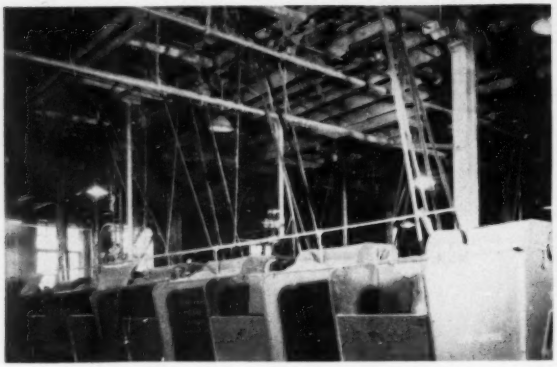
The physical assets of the mill were in doubtful condition to assure a competitive position in 1943; however an examination of the plant and facilities in operation today will leave no doubt as to whether this mill is competitive.

Present mill officials include: James S. Floyd, chairman of the board; Emory Cocke, vice-chairman of board; George E. Glenn, president; James L. Dickey, vice-president; Ben Doar, secretary-treasurer; C. J. Turner, assistant secretary-treasurer; a Directory; and J. C. Edwards has been superintendent since 1943.

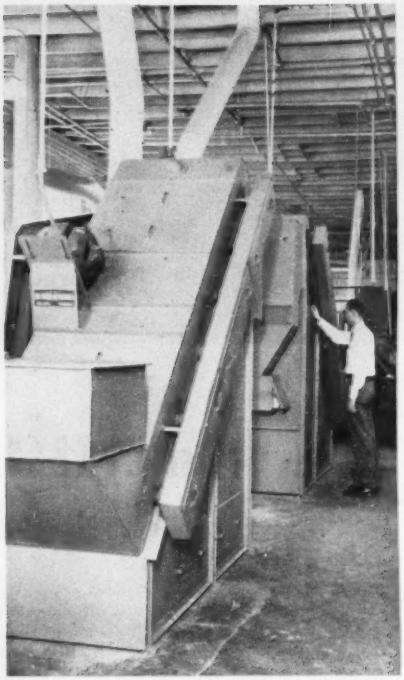
The following account of progress at Exposition Cotton Mills since 1943 should provide ample evidence that management at this plant is convinced that modern machinery and methods are necessary to achieve success.

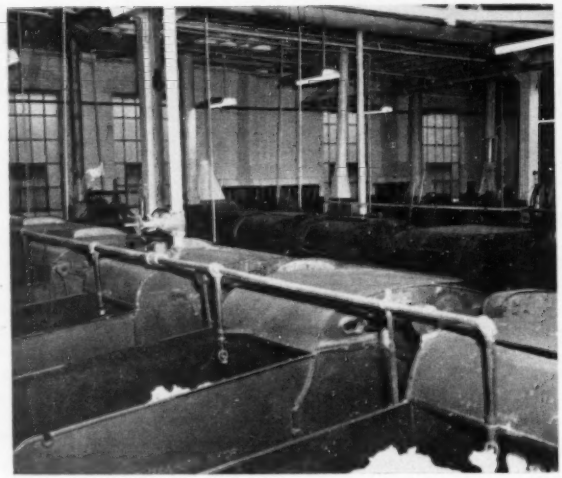
Please turn the page →

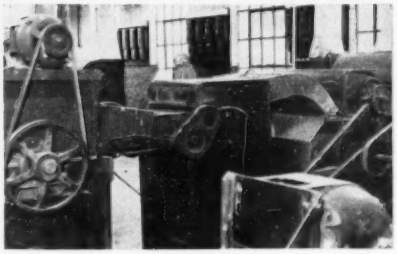




(Before)



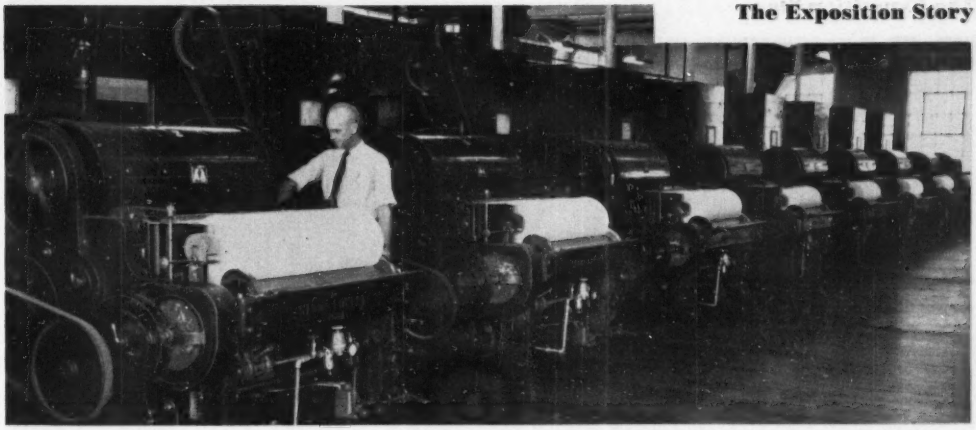


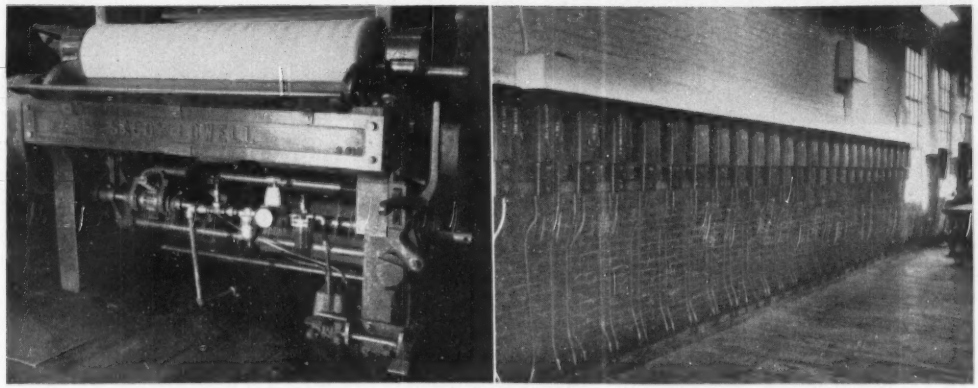


OPENER ROOM

Date	Improvements	Results	Supplier
1943	Individual motor drives installed throughout	Less maintenance; less down time; uniform machine speeds; improved safety; easy to clean; improved appearance.	General Electric; Westinghouse Electric
1944	Four horizontal Superior cleaners	Provides additional cleaning of stock.	Centrif-Air
1946	Ball bearings in hoppers and aprons	Maintenance of shafts and bearings reduced; stays cleaner; uses less oil.	Fafnir
1950	Permanent magnet in opener line	Fewer fires because tramp metal is removed from stock.	Eriez
1950	Four inclined Superior cleaners	Provides additional cleaning and less curling of fibers.	Centrif-Air
	Scheduled Improvements		
1951	Install heat diffusing unit	.....	Carrier; York

Present Layout—Four lines; six automatic feeders; horizontal Superior cleaner; vertical opener; No. 2 screen section; No. 12 lattice opener; No. 5 screen section; inclined Superior cleaner.

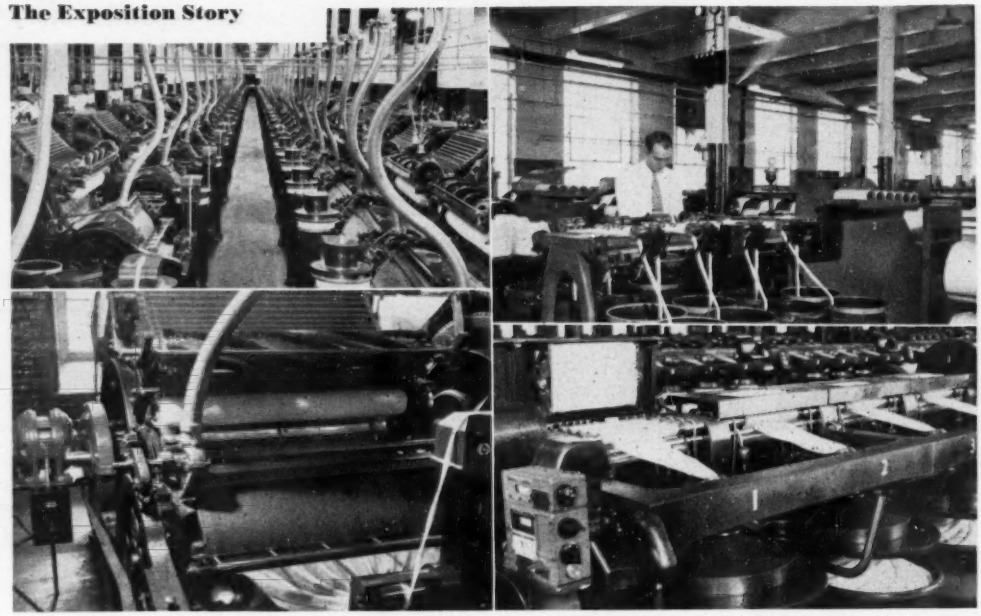




PICKER ROOM

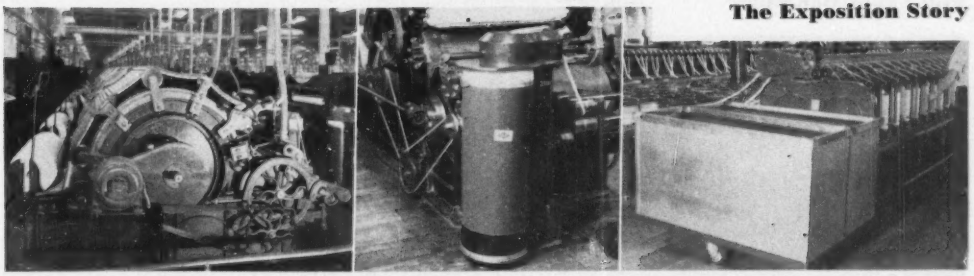
Date	Improvements	Results	Supplier
1944	10 blending reserve boxes	More even flow of cotton to feed rolls; delivers stock in better condition for beating.	Saco-Lowell
1944	Lap meter installed	Aids in quality control by permitting lap evenness tests on yard per yard basis.	Saco-Lowell
1945	Individual motors on all machines	Less maintenance; improved safety; less machine down time; more uniform machine speeds; improved appearance and cleanliness; permits better lighting.	Westinghouse Electric; General Electric
1946	Two distributors installed (five pickers each) with overflow boxes and No. 11 dust and waste extractors	Better distribution and control of feed from opening room; delivers stock in fluffy open condition.	Saco-Lowell
1947	Calender chain drives installed	Reduces split laps by stopping lap when picker knocks off; makes end of lap easier to find and piece on card.	Saco-Lowell
1948	Heat diffusing unit installed	Maintains more uniform temperature.	Carrier; York
1951	Ten pneumatic lap-rack controls installed	13% increase in lap yardage, increasing picker efficiency; easier to doff; expect less maintenance.	Saco-Lowell

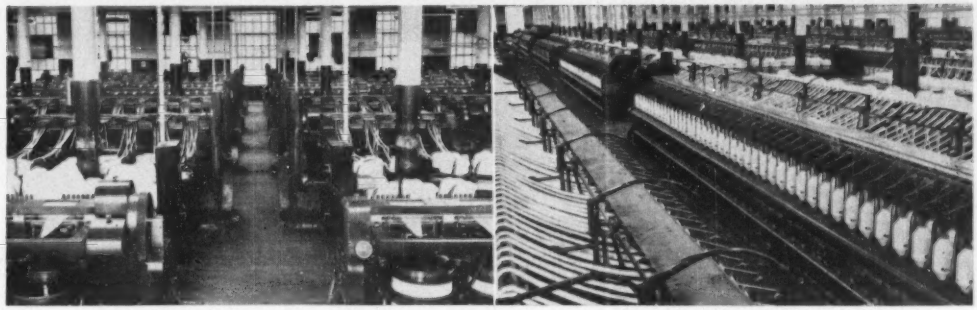
Present Layout—Ten two-beater, one-process pickers with Saco-Lowell distributors and blending reserve boxes.



CARD ROOM

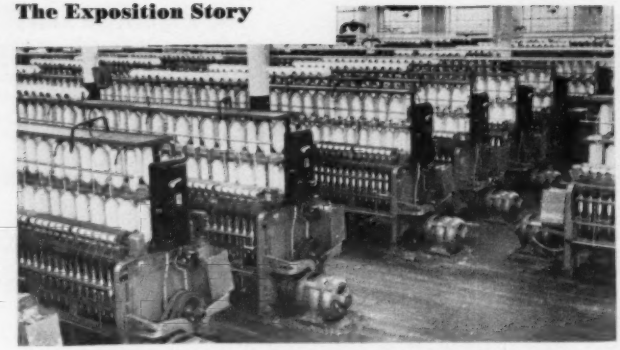
Date	Improvements	Results	Supplier
1944	Vacuum stripping system installed for all cards	Saves labor; does not damage clothing; does good stripping job; less dust from stripping.	Abington
1946	249 individual motors with silent chain drive installed on cards	Improved appearance; room stays cleaner; less maintenance; permits better lighting; improved safety; more uniform machine speeds; makes grinding easier; increased efficiency.	Westinghouse Electric; General Electric; Link-Belt
1946	Atomizer system of humidification	Maintains uniform relative humidity.	American Moistening Co.
1946	Cushion top rolls installed throughout	Gives more uniform sliver.	Saco-Lowell
1946	Ball bearings installed on drawing frame main shafts	Machinery stays cleaner; saves on oil and power; reduces maintenance costs.	Fafnir
1946	Dan River type clearers installed on drawing frames	Less clearer waste gets into sliver; requires less frequent cleaning.	Saco-Lowell
1946	Remodeled all rest rooms with tile	Better appearance; improved employee morale.	A. W. Cook
1946	Built new overseer office and timekeeper office	More privacy and convenience for overseer to do better job.	
1948	Air changing system installed	Maintains uniform temperature and cools during summer months.	American Moistening
1948-50	Aluminum roving boxes	Less maintenance; longer life; less damage to roving.	
1949	44 new 40-inch cards with 27-in. doffer and individual motor drive	Increased production to better balance mill.	Saco-Lowell; Westinghouse Electric; General Electric
1949	Two lap winders added and 32 deliveries of controlled draft drawing installed	Improvement over conventional drawing; more uniform sliver produced; increased production.	Saco-Lowell
1950	Converted 18 cards from 12-inch coiler to 14-inch coiler	32% increase in pounds of sliver per can; less frequent doffing and creeling required; decreased carding costs.	Cox Foundry
1950	Converted eight 12 x 6 slubbers to Inter-draft	Longer draft; wider range of drafts; allows use of heavier sliver, or production of fine roving.	Whitin
1950	Hank clocks (3-shift) installed on all drawing	Now clocks do not have to be read every shift (replaced one-shift clocks).	Veeder-Root





1950	Hank clocks (3-shift) installed on all roving	Clocks do not have to be read every shift.	Veeder-Root
In Process	Installing spur-gear compounds on nine 12 x 6 slubbers and twenty-five 10 x 5 slubbers	Less maintenance; easier to oil; frame remains cleaner because compound is enclosed.	Saco-Lowell
In Process	Ball bearings for lickers-in on 142 cards	Saves power; less maintenance; machine stays cleaner.	Fafnir
In Process	Waste-control screens on 100 cards	Less wasted fibers; decreased maintenance.	Saco-Lowell; Elliot Co.
In Process	Bottle oilers on 258 cards	Improved oiling schedule; less wasted oil.	Trico Fuse Mfg. Co.
	Scheduled Improvements		
	Install 27 additional cards	.....	Saco-Lowell
	Convert cards from 12-inch coiler to 14-inch coiler (275 cards)	.....	Cox Foundry
	Complete installation of waste-control screens (149 cards)	.....	Saco-Lowell; Elliot Co.
	Complete installation of ball bearings on all lickers-in (107 cards)	.....	Fafnir
	Remove four 10 x 5 slubbers to make room for 27 additional cards	.....	Saco-Lowell
	Complete installation of spur-gear compounds on all slubbers	.....	Saco-Lowell
	Convert two 10 x 5 slubbers from 84 to 96 spindles; convert two from 92 to 96 spindles	.....	
	Air condition overseer's and timekeeper's offices	.....	Worthington
	Build new dressing rooms and showers	.....	

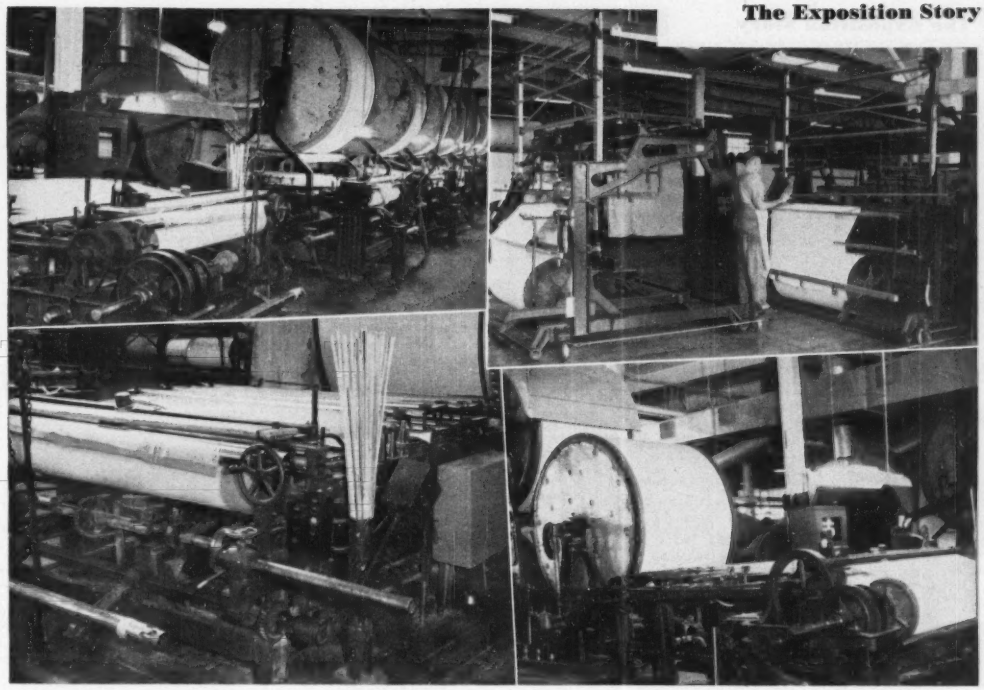
Present Layout—293 cards; 328 deliveries conventional drawing; 32 deliveries of controlled draft drawing; two lap winders; sixteen 12x6 slubbers (1112 spindles); thirty-six 10x5 slubbers (3376 spindles).



SPINNING ROOM

Date	Improvements	Results	Supplier
1943 & 1947 (96) (32)	Installed 128 new warp spinning frames —Whitin F-2, 3 3/4-inch gauge; 252 spindles per frame, equipped with Bijur one-shot lubrication	Better quality; more production.	Whitin; Bijur
1943	Five new quill strippers installed	More production than old models permitted.	Terrell Machine
1946	Seventy-six new filling spinning frames —Whitin F-2 3 3/4-inch gauge; 264 spindles per frame with adjustable diameter cylinder sheave, equipped with Bijur one-shot lubrication	Improved quality; more production; better build; better bunch.	Whitin; Allis-Chalmers; Bijur
1946	Four new spoolers; 180 units per spooler	Improved quality and increased production.	Barber-Colman
1946	Four new high-speed warpers; 432-end capacity	Improved quality and increased production.	Barber-Colman
1946	New, return-air cleaning system for spoolers and warpers	Removes lint from air, giving better working conditions and cleaner yarns.	Knowlton & Newton
1946	Built new overseer's and timekeeper's offices	More convenience and privacy for overseer.	
1946	Remodeled rest rooms with tile	Improved convenience and morale.	A. W. Cook
1946-47	Creel-type warp spinning cleaners on all warp frames	Cleaner spinning room.	Parks-Cramer
1947	New air changing system throughout spinning	Better working conditions; more uniform temperature.	American Moistening
1947	New humidifying system throughout spinning	Close control of relative humidity.	American Moistening
1948	Adjustable diameter motor sheave installed on 79 warp frames	More accurate speed adjustments; quicker adjustments; less slippage.	Allis-Chalmers
1949-50	Rebuilt 15 warp spinning frames and changed to tape drive	Better quality yarn; less maintenance; increased production.	
1950	Made beam twister from warp spinning frame	Satisfactory substitute machine.	
1950	Adjustable diameter motor sheave installed on one warp frame	More accurate speed adjustments; quicker adjustments; less slippage.	American Pulley
1950	Replaced all filling boxes with metal boxes	Less damage to filling; light and easy to handle; longer life; less maintenance.	
1951	Air conditioned overseer's office	Improved working conditions.	Worthington
	Scheduled Improvements		
	Change two warp frames from 9 1/4-inch bobbin to 10 1/4-inch bobbin, using Whitin SKF HM 4-34 spindles...	.....	Whitin; SKF
	Complete installation (64 warp frames) of adjustable diameter sheaves	.....	American Pulley; Pye-Barker Supply; Battey Machine

Present Layout—143 warp spinning frames (36,036 spindles); 76 filling spinning frames (20,064 spindles); one beam twister (204 spindles); four spoolers (720 units); four warpers (432 ends each); five quill strippers.



SLASHING, DRAWING-IN, TYING-IN

Date	Improvements	Results	Supplier
1943	Size kettle control panel	Close control of cooking conditions.	Taylor Instrument
1944-50	Three-tier storage racks for loom and section beams; equipped with electric hoists	Saves floor space; hoists mounted on monorail allow warps to be placed in back and removed from front to use older warps first; increased production.	Yale & Towne
1945	Converted seven slashers to modified West Point 3-cylinder	Speed increased 10 to 20 yards per minute; better warp preparation.	West Point Foundry
1947	Built new tiled rest rooms	Improved convenience and morale.	A. W. Cook
1947	Installed exhaust ducts over slashers	Helps remove heat and water vapor from atmosphere in slasher room.	Sims
1948	Air change system installed	Better temperature control.	American Moistening
1949-50	Multi-motor drive put on 7 slashers	Better control over stretch at slashing; increased production; better warp preparation.	Westinghouse Electric
1949-50	Moisture control put on 7 slashers	Better control over moisture content of warps.	Brown Instrument; Barber-Colman
1950	New 6-harness, 4-bank drawing-in machine	Quality and production improved in drawing-in.	Barber-Colman
1951	Installed new 22-harness, 6-bank drawing-in machine	Quality and production improved in drawing-in.	Barber-Colman

Scheduled Improvements

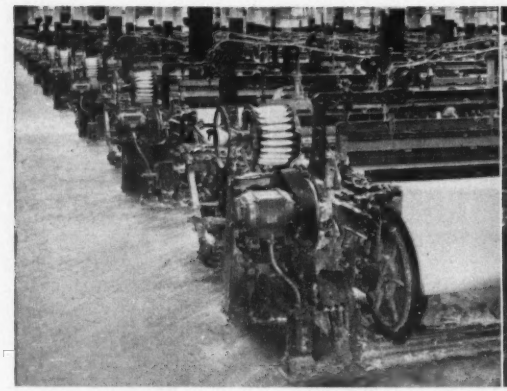
Use two 7-foot cylinders from old slasher to make size mixing tanks; equip with pumps to feed two 400-gallon homogenizers to be installed. Rebuild storage tank area above level of slashers with pump for return size.

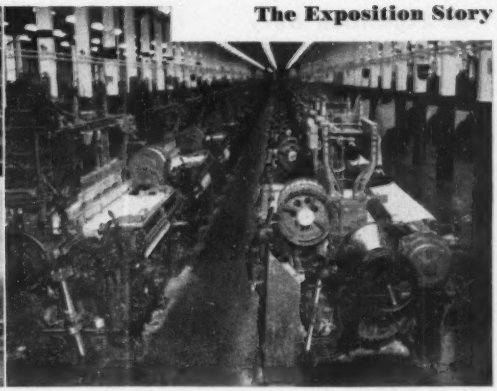
Present Layout—Seven 3-cylinder slashers; two tying-in machines (one 56", one 76"); one 6-harness drawing-in machine.

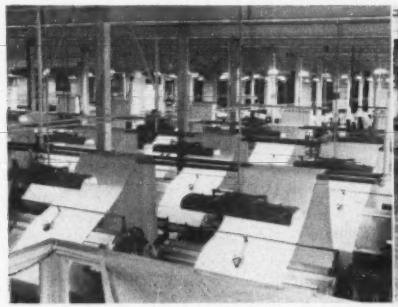
WEAVE ROOM

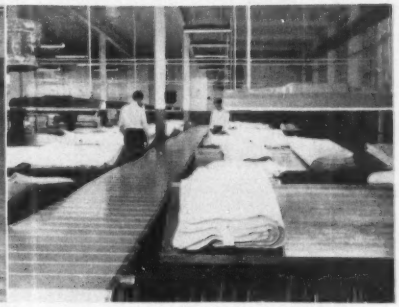
Date	Improvements	Results	Supplier
1945	Replaced monitors with new roofs on weave rooms and replaced decking where needed	Improved maintenance; better temperature and humidity control; better cleaning conditions.	Therrel Roofing
1945-50	Equipped all looms with 3-shift pick clocks	Eliminates reading clock each shift.	Veeder-Root
1945-50	New flooring, decking, and timbers installed in weave rooms where needed	Improved structure; better appearance.	
1945-50	Replaced all wiring and electric switches throughout weave room	Adequate safety and service for individual drives on looms and other equipment in weave room; increased production.	Westinghouse Electric; Cutler-Hammer
1945-50	Installed 330 44-inch X2 looms with individual motor drives (62 equipped with aluminum lay). Replaced 52-inch D Model and 40-inch E Model, belt driven looms	Better quality cloth; more production.	Draper; Westinghouse Electric; General Electric
1947	Replaced two wood walls in weave rooms; built 1240 lineal feet of brick walls	Better temperature and humidity control, thereby increasing production and quality.	
1947	Installed 232, 44-inch X2 looms with individual motor drives (replaced 44-inch E Model belt driven looms)	Better quality cloth; more production.	Draper; Westinghouse Electric; General Electric
1947	Installed new humidifying system	Close control over relative humidity; increased quality and production.	American Moistening
1947-50	Built new tile rest rooms	Improved convenience and morale.	A. W. Cook
1947-50	All looms mounted on Unisorb felt pads	Less vibration; decreased maintenance.	Felters
1948	168, 44-inch XD looms with 20-harness dobby heads and individual motor drives (replaced 72-inch D Model belt driven looms)	Better quality cloth; more production; more flexibility in types of weaves.	Draper; Crompton & Knowles; Westinghouse Electric; General Electric
1948	Installed air changing system	Better temperature control; better working conditions; increased production.	American Moistening
1949	200 new 60-inch XP looms with 20-harness dobby heads and individual motor drives replaced 36-inch and 40-inch E Model, belt driven looms	Better quality cloth; more production; more flexibility in types of weaves.	Draper; Crompton & Knowles; Westinghouse Electric; General Electric
1949	Built a 70-foot extension onto one weave room (100 feet wide)	Enlarged capacity for additional looms; increased production.	
1949-50	Purchased three new portable tying-in machines; motor driven	Increased quality and production.	Barber-Colman
1950	70 new 60-inch XP looms with 20-harness dobby heads and individual motor drives replaced 68-inch, modified D belt-driven looms	Better quality cloth; more production; more flexibility in types of weaves.	Draper; Crompton & Knowles; General Electric; Westinghouse Electric
1950	Niagara twist setter installed	Improved quality and efficiency; conserved floor space.	Seydel-Woolley
1950	151, 40-inch E Model looms rebuilt and equipped with spreaders, electric stop motions, and individual motor drives	Better quality cloth; more production; increased speed of looms.	Draper; General Electric; Westinghouse Electric
	Excavated under No. 3 weave room, laid concrete floor, iron columns, for additional weave room	Enlarged capacity provides space for additional looms; more production.	
1950	222, 40-inch E Model looms rebuilt and equipped with spreaders, electric stop motions, and individual motor drives	Better quality cloth; more production; increased speed of looms.	Draper; Westinghouse Electric; General Electric
1950	Built new dressing rooms and showers	More convenience; improved morale.	
1950	Built new air conditioned offices for overseer and timekeeper	More comfort and privacy for supervisory personnel.	Worthington
1950	Replaced all loom harnesses with new harnesses	Less maintenance; improved efficiency and quality.	Steel Heddle

Present Layout—270, 60-inch XP Special looms; 562, 44-inch X2 looms; 168, 44-inch XD looms; 373, 40-inch E Model looms, rebuilt; total, 1373 looms.









CLOTH ROOM

Date	Improvements	Results	Supplier
1948	Installed three new shearers and despeckers	Increased production and improved quality.	Parks-Woolson
1948	Rearranged machinery for continuous flow of goods	Increased production.	
1948	New floor scales installed	Accuracy improved in checking weights.	Howe Scale
1948	New cloth folder installed	Increased production; better folds; more accurate yardage; better package.	Curtis & Marble
1948	Removed monitor and made roof flat for air changing system	Better control of air temperature; reduced maintenance; better appearance; reduced cleaning cost inside mill.	Therrel Roofing
1948	Installed air changing system	More comfort; better control of air temperature and humidity.	American Moistening
1948	Installed new humidifying system	Closer control over relative humidity.	American Moistening
1948	Rebuilt overseer's office	Better appearance and more convenient for employees.	
1950	Individual motor drives and two surface yardage counters installed on burling machines	Less maintenance; easier to clean; more uniform speed; easier on operator.	General Electric; Veeder-Root
1950	New railway sewing heads with individual motor drives installed	Increased production; reduced oiling and cleaning.	Merrow; Singer
1950	Cloth conveyor installed for cloth inspectors	Reduced manual handling of cloth; increased production.	Steel Parts Mfg.
1950	Built new rest rooms with hot water, and showers	More convenient for employees; improved morale.	

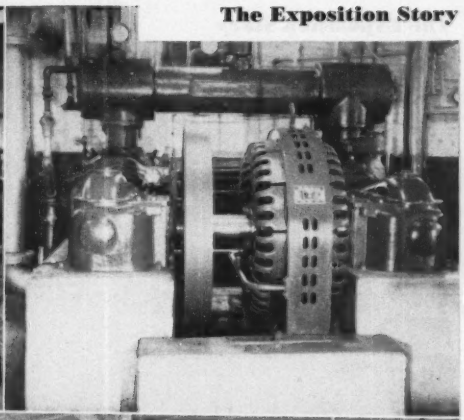
Present Layout—Three shearers and despeckers; 25 inspecting machines; three folders; 28 inspecting tables; one brusher and rolling machine; one bale press.

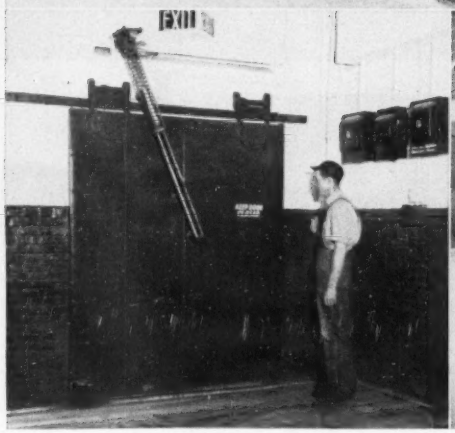
SHOP

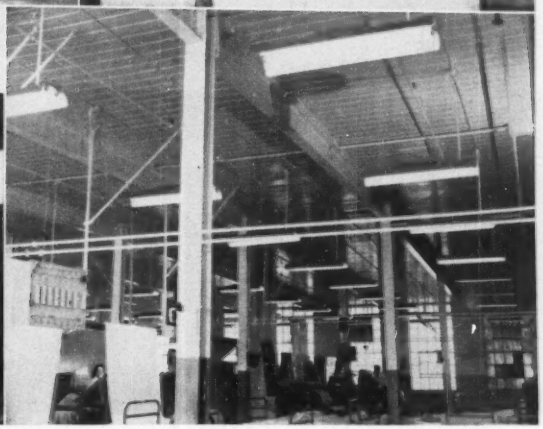
Date	Improvements	Results	Supplier
1943	Built two-story addition to opener room for waste house and air compressors	Relieved congestion in other departments.	
1943	Built new office for mechanical superintendent	More convenient; better appearance.	
1943	Built new electric shop	Better service and maintenance on mill equipment.	
1943-47	Four new low-pressure air compressors installed	Less maintenance; improved efficiency.	Ingersoll-Rand
1945	Built brick building for wood cutters	Improved mill maintenance facilities.	
1946	One new high-pressure air compressor installed	Less maintenance; improved efficiency.	Ingersoll-Rand
1946-48	Installed capacitors to bring power factor up to 95 per cent	Lower power costs; power conserved.	Westinghouse Electric
1947	Poured new concrete floor in machine shop	Better appearance and working conditions.	
1948	Installed new lathe	Improved maintenance and service equipment.	Hendey Machine
1948	Installed new village substation with three 250 KVA transformers	Accommodates additional electrical load in village.	Eisler Engineering
1949	New milling machine installed	Improved mill maintenance facilities and efficiency.	Cincinnati Milling Machine
1950	New radial drill installed	Improved mill maintenance facilities and efficiency.	Canedy-Otto
1950	Purchased new gear hobbing machine	Improved mill maintenance facilities and efficiency.	Gould & Eberhardt
1950	Installed 300 hp gas fired boiler	Saves labor; lower fuel costs.	Bigelow Co.; Preferred Utilities
1950	New cot buffing machine installed	Improved maintenance and service facilities.	Armstrong Cork
1950	Built new brick boiler room nearer slasher room	Decreased cost of steam for slashing.	
1950	Installed 200 hp gas fired boiler	Saves labor; lower fuel costs; more versatility.	Bigelow Co.; Preferred Utilities
1950-51	Installed 20 500-amp. air circuit breakers	Accommodates additional electrical load for added capacity.	Westinghouse Electric
1951	1 new 5000 amp. Master air circuit breaker	Accommodates additional electrical load for added capacity; improved safety factor.	Westinghouse Electric

GENERAL IMPROVEMENTS—ALL DEPARTMENTS

Date	Improvements	Results	Supplier
1944-47	Fluorescent lighting installed throughout	More light; less maintenance.	Sylvania Electric
1945-46	Steel sash installed throughout	Better appearance; less maintenance.	Battey Machinery
1946	Electric water coolers installed throughout	Improved employee morale and comfort.	Westinghouse Electric; General Electric
1949-50	Automatic door opener and closer on all fire doors	Improved safety.	Schoelkopf Mfg.
1950	CO_2 fire extinguishers installed throughout	No hazard or mess in putting out fires; containers do not corrode; improved safety.	C-O-Two
1950	Soft drink coolers installed throughout	For employee's convenience and morale.	
1949-51	Repainted all walls, posts, ceilings	Improved appearance; better lighting.	Barreled Sunlight
1949-51	All floors (picker room through cloth room) refinished and maintained by sanding and polishing	Better appearance; easier to keep clean.	G. H. Tennant; Holt Mfg.; Selig; Puritan Chemical
1951	Coffee Bar	For employee's convenience and morale.	Koffee Kup

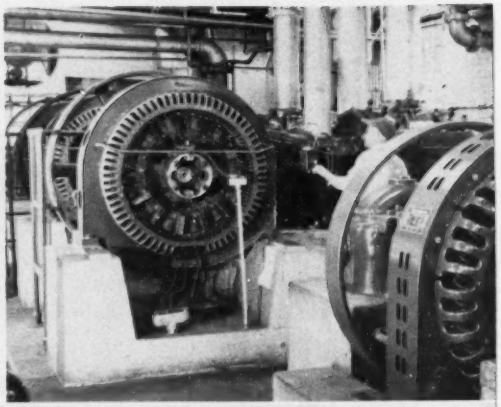


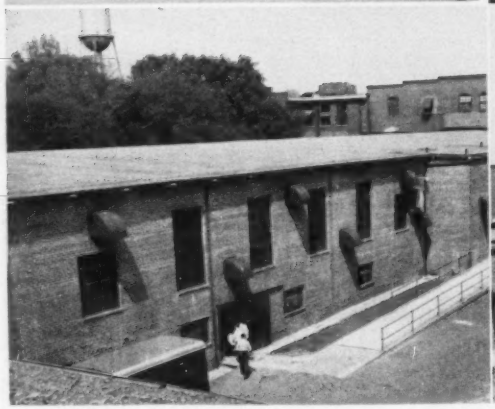


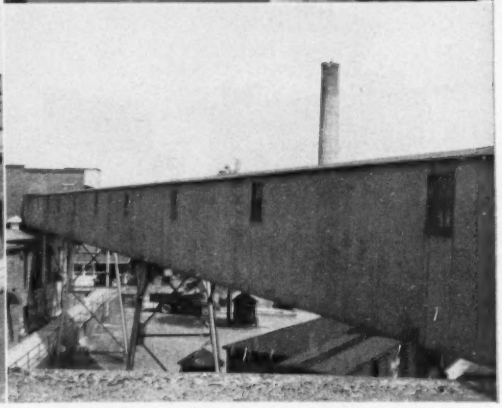


MISCELLANEOUS

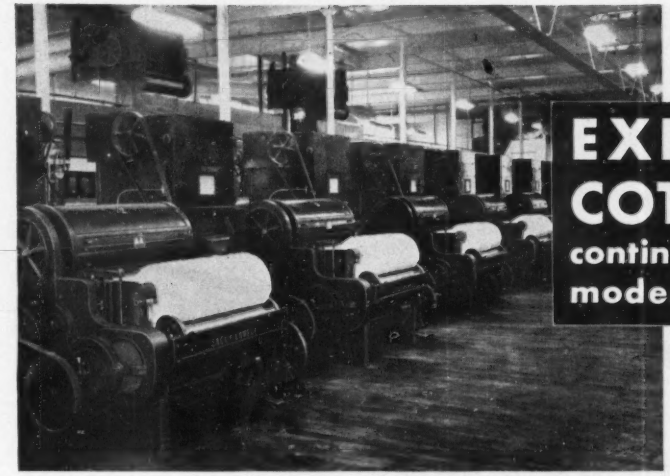
Date	Improvements	Results	Supplier
1943	Installed new elevator in cloth warehouse	Smoother flow of goods, and more efficient materials handling.	Otis
1943	Built new brick warehouse	More adequate cotton storage facilities.	
1943	Rearranged and enlarged supply room	Enlarged capacity to meet expansion needs.	
1944	Built new tramway from spinning room to slasher room	Smoother flow of goods, and more efficient materials handling.	
1946	Built new elevator shaft; moved and remodeled elevator to spooler room	Decreased costs; increased floor space.	
1947	Purchased new 1 1/2-ton truck	Improved maintenance service for mill village.	General Motors
1947-48	Installed new circuits for weave room, slasher room, and cloth room	Less maintenance; improved safety, and electrical service.	
1948	Built two-story addition for tool room, laboratory, standards department, and carding and spinning offices	Better working conditions; enlarged capacity.	
1948	Purchased new 1/2-ton pickup truck	Improved maintenance service.	General Motors
1948	Purchased new 1 1/2-ton dump truck	Improved maintenance service.	General Motors
1948	Installed air conditioning in laboratory and standards department	Controlled conditions for testing; better working conditions.	Worthington
1948	Installed Micronaire in laboratory	Improved testing facilities; better quality control.	Sheffield







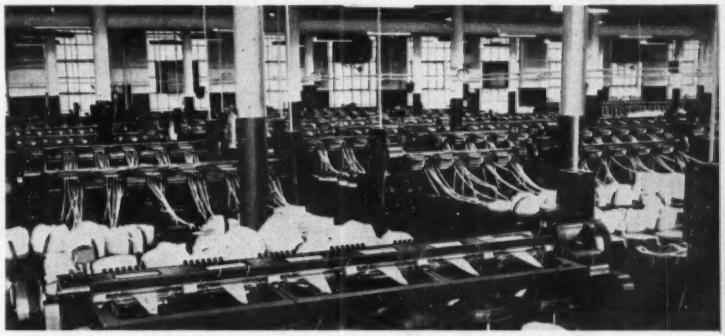
Date	Improvements	Results	Supplier
1949	Paved yard with asphalt	Improved appearance; less traffic congestion; convenient for employees.	Stewart Brothers
1950	Paved employee parking lot with asphalt	Improved appearance; less traffic congestion; convenient for employees.	Stewart Brothers
1950	Built new concrete loading platforms for cotton and cloth	Smoother flow of materials; additional loading space; less maintenance; better appearance.	
1950	Graded under No. 1 weave room, poured concrete floor, installed iron columns	Additional storage space available.	
1950	Purchased new direct-reading yarn and roving scales	Saves time; better quality control.	A. Suter
1950	Installed new duplicator	Saves on printing costs.	Addressograph-Multigraph
1950	Remodeled and enlarged print shop	Enlarged capacity; saves on printing costs.	
1950	Purchased three new fork lift trucks	Speeds handling of cotton and cloth and saves labor.	Clark
1951	Excavated under No. 2 weave room and poured concrete floor for starch storage	Provides additional storage space.	
1951	Installed new paper drill and paper cutter in print shop	Saves on printing costs.	Addressograph-Multigraph
1951	New office for cotton classer; equipped with classing lights	Improved cotton classing facilities.	Macbeth
	Scheduled Improvements		
	Build new clinic for mill and village		
	Build new mill cafeteria		



EXPOSITION COTTON MILLS

continue their perpetual modernization program

Recent completion of another ambitious step in their long-range plan, has assured this well-managed mill of maintaining its strong competitive position for many years to come.



Producing a wide range of fabrics, comprising corduroys, twills, drills, sheetings, draperies and gabardines, requires a high degree of flexibility in the card room — the "heart of the mill." Exposition has secured this desired flexibility by using modern Saco-Lowell equipment with its adaptability as to stock and organization.

More than a half-century ago, SACO-LOWELL equipment was first installed in this mill. We have been pleased to serve them regularly since that time.

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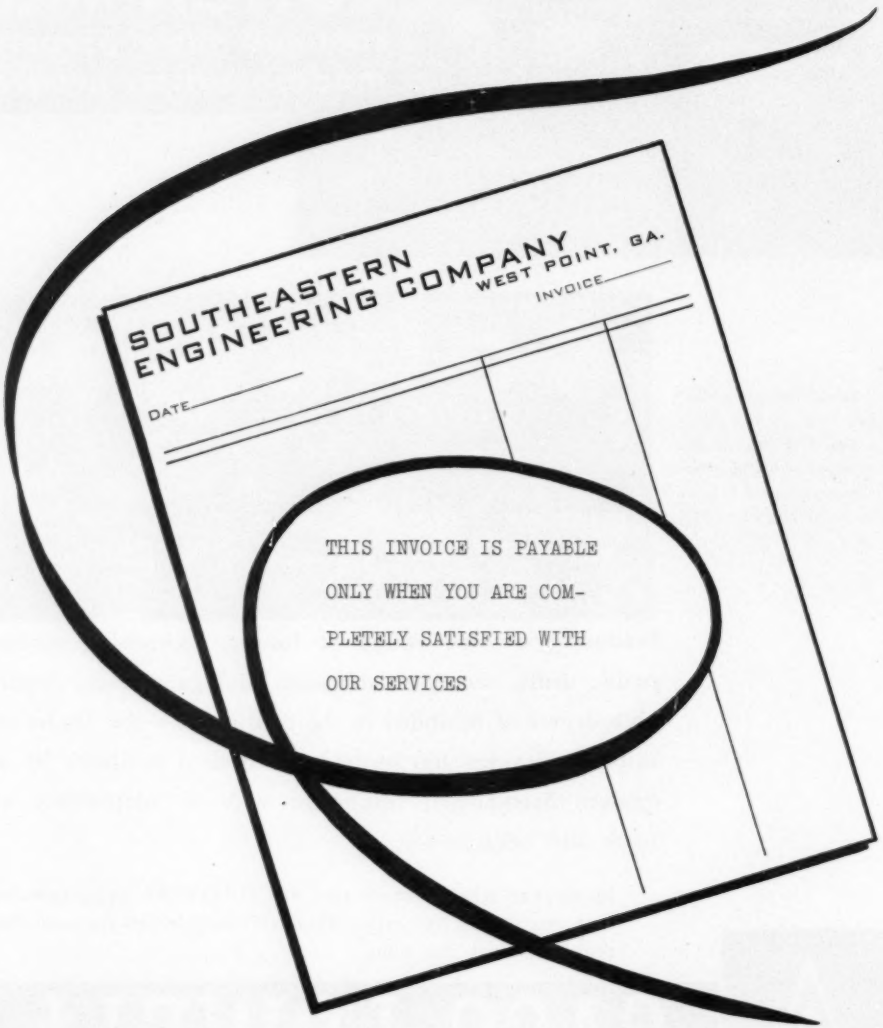

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WEST POINT, GEORGIA

WE specialize in reducing and controlling waste in the textile industry. Our service is in use in mills running

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ALL TYPES OF SYNTHETICS

Our guarantee to you is a savings of at least five times the cost of the program during the first year. The average savings is twelve times its cost.

Write for a list of mills using our service – then ask them about us.

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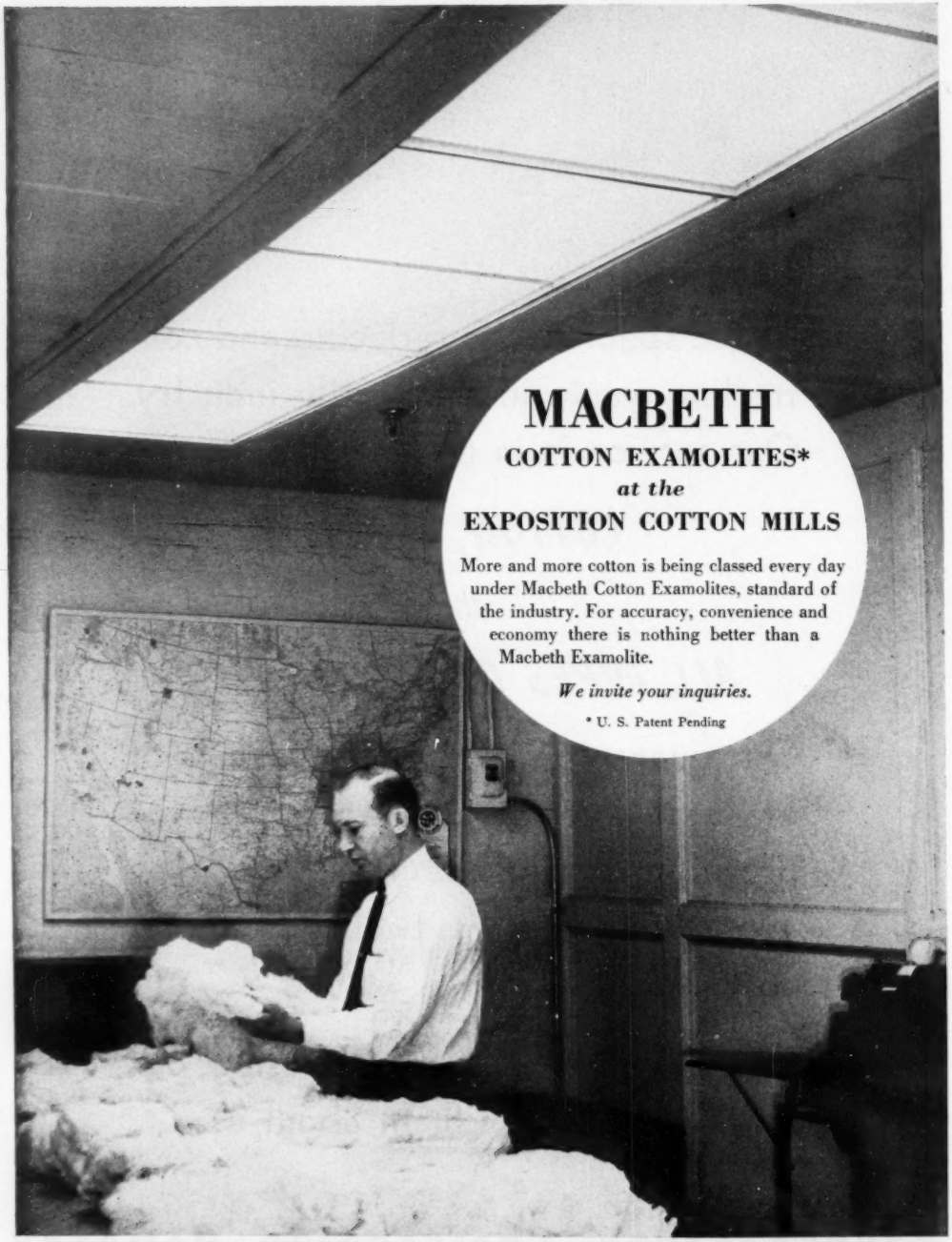
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As Used at Exposition Cotton Mills

MODERNIZATION with the "NIAGARA TWIST-SETTER" Machine means:

1. Highly efficient, inexpensive conditioning of filling yarns.
2. Maximum capacity (3,000 lbs. per hour) in minimum floor space—NO MOVING PARTS.
3. Negligible maintenance costs.

For the many other advantages of the "NIAGARA TWIST-SETTER", write for descriptive folder.

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PENETRANTS • SIZING • SHUTTLE DRESSING • SOFTENERS • ALKALIS
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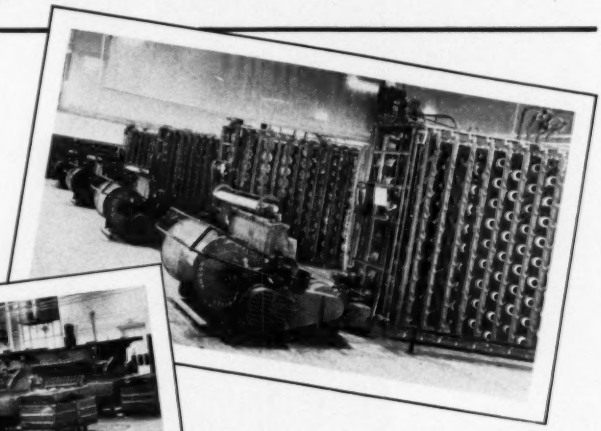
BARBER-COLMAN

MACHINES

• Right, four Barber-Colman Super-Speed Warpers with creels which can be loaded from the inside at the same time they are running from the outside. These units were installed in 1946 to replace slower units originally purchased in 1925.



• Above, four Barber-Colman Automatic Spoolers of 180 spindles each. These machines accommodate longer bobbins, make larger cheeses, and have more spindles than the earlier models they replace. Also, the newer machines are capable of handling four different counts simultaneously.

• Right, Model G Barber-Colman Warp Drawing Machine for efficient warp replacement in looms having up to 22 harness, 6 banks of drops wires, and reed. Exposition Cotton Mills also have several Barber-Colman Warp Tying Machines, both fixed and portable types, the first one of which was delivered to them in 1907.

AT

EXPOSITION

COTTON MILLS, ATLANTA, GEORGIA

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

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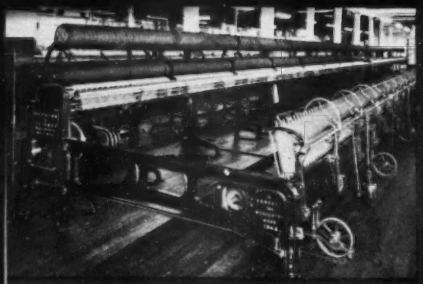
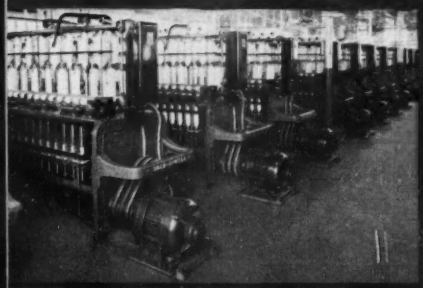
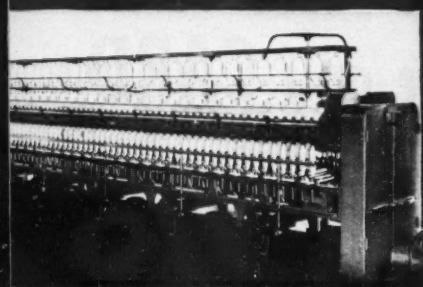
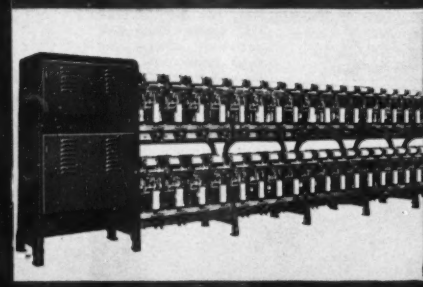








TURNING POINTS

to increased production

in Spinning and Twisting

If you stop to consider the great number of turning points on machines for spinning and twisting, you'll understand how bearings with low co-efficients of friction can make these machines more productive. Comparative tests for example, have shown that a frame equipped with Fafnir ball bearings was ready to doff fully five minutes before the plain bearing frames. In combination with the reduction of lost time for servicing and repairs, this speed-up meant many more productive hours.

In spinning and twisting there are more varieties of Fafnir ball bearings and ball bearing units used than in any other process. They are universally known for their simple, quick installation on all types of machines. Many of these units have the famous Fafnir Wide Inner Ring Ball Bearing with self-locking collar . . . easiest of all to install.

Your most economical way to get increased production may be represented by Fafnir Textile Ball Bearing Units. Why not send for a descriptive catalog? The Fafnir Bearing Company, New Britain, Conn.

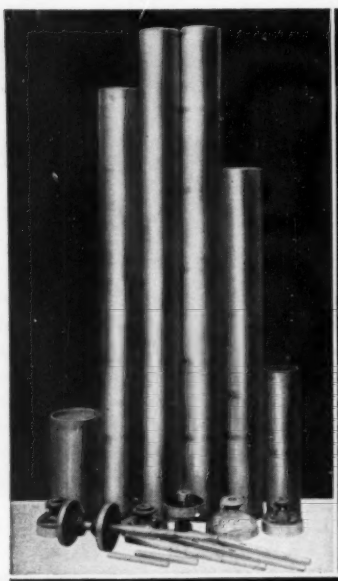
A few of the applications incorporating FAFNIR BALL BEARINGS for Spinning and Twisting

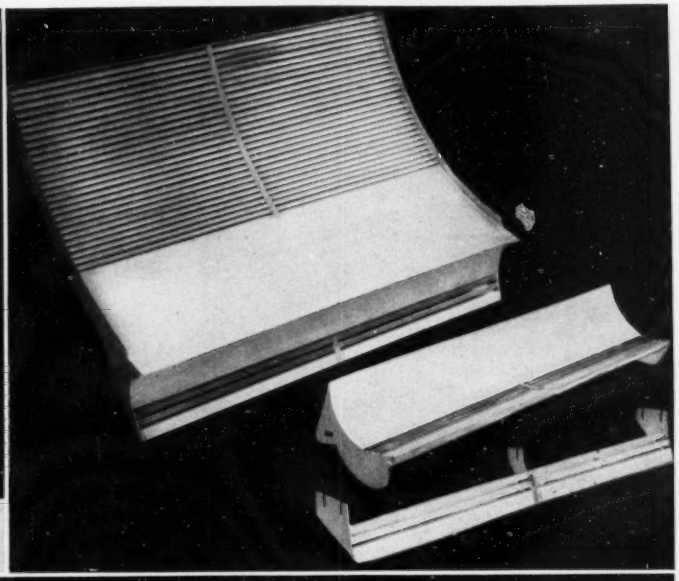
- Back Idlers with Fafnir Piya-Seal Ball Bearings
- Cylinder Bearing Replacement Units
- Upstroke Twister Idlers
- Tape Tension Pulleys
- Spindles (spinning and twisting)
- Cam Shafts
- Jack or Intermediate Gear
- Take-up Rolls
- Cross Shafts

FAFNIR

BALL BEARINGS

MOST COMPLETE LINE IN AMERICA





Cylinders to fit any frame-

SCREENS for any CARD

SIMS CHECK LIST FOR REPLACEMENT PARTS

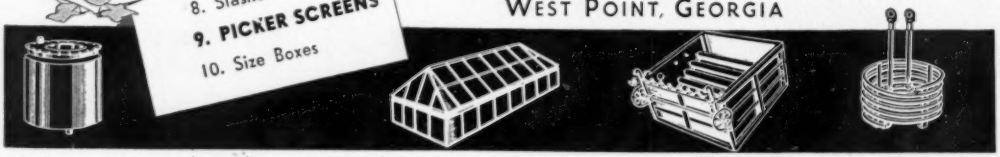
1. Pipe Coils—of every shape, in any metal or alloy
2. Dry Cans
3. Slasher Hoods
4. Rolls—fluted or plain
5. **SPINNING CYLINDERS**
6. **SPINNING CYLINDER HEADS AND ARBORS**
7. **CARD SCREENS**
8. Slasher Cylinders
9. **PICKER SCREENS**
10. Size Boxes

Rough and battered spinning cylinders cannot produce strong, even yarns. Nor, going further back, will worn card screens produce even laps. These important pieces of equipment, so essential to top grade textile production, are frequently neglected. Sims replacement parts stock includes picker screens, cylinders, heads and arbors for any make of frame and screens for any type card. Sims is also equipped to repair reusable equipment. For proper sliver deposit, even lap and strong yarns, inspect carding and spinning equipment, then call Sims.

Sims METAL WORKS

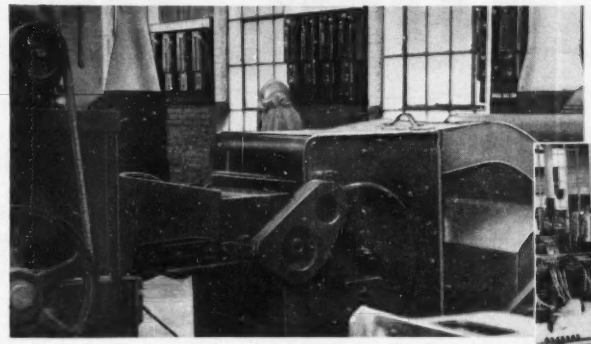
WEST POINT, GEORGIA

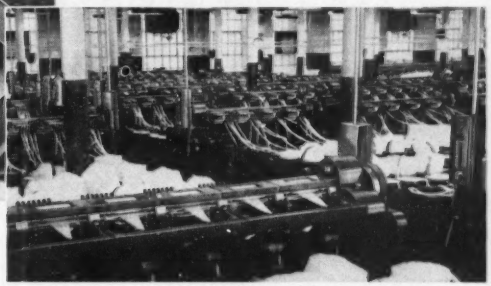
Get the Sims CHECK LIST habit — check your equipment against the stock replacement parts list at left. It's a money-saving habit.



CUTLER-HAMMER

MOTOR CONTROL FOR THE TEXTILE INDUSTRY





for EXPOSITION at Atlanta.
(At left) Cutler-Hammer Magnetic Starters and Safety Switches in the opener room and (below) Cutler-Hammer Combination Starters on drawing frames.

Where many machines must be made to work as one

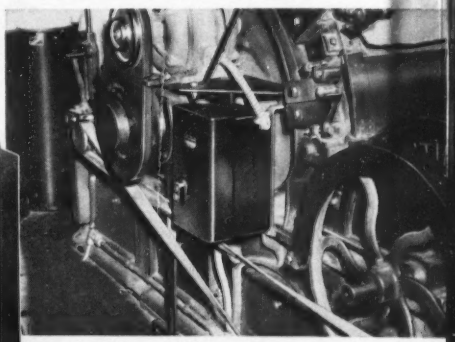
When total production depends on the coordination of many machines in many departments as in the textile field, the selection of the Motor Control that stands guard over and guides these machines becomes of paramount importance. And it is of paramount importance to every conscientious textile executive what the Cutler-Hammer 59-year specialization in motor control can put in his hands by way of *immediate* advantages and the far more crucial advantage of *long-time dependability*. See what experience in the plants of the nation as the nation's number one motor control specialists can mean to your production. Specify Cutler-Hammer Motor Control in your very next purchase. CUTLER-HAMMER, Inc., 1456 St. Paul Avenue, Milwaukee 1, Wis.

for WAUMBEC at Manchester, N. H.
Cutler-Hammer primary resistance type Starters on spinning frames.

CUTLER-HAMMER CARD CONTROLLER

With integral drum type reverse switch

Here in one self-contained unit is all the control needed for a card . . . convenient pushbutton starting and stopping *plus* an integral reverse switch for cleaning and grinding. Card cannot be reversed accidentally or by any unauthorized person when controller case is padlocked. Easier to install. Easier and safer to use. Felt-gasketed against lint. Famous Cutler-Hammer Eutectic Element Overload Protection specially arranged to provide long starting time (required for cards) without loss of normal operating protection.



for a NORTH CAROLINA mill.
Specially designed Cutler-Hammer Controller for individual card drives.

CUTLER-HAMMER
MOTOR CONTROL
C-H

TUNE UP

For Smoother Flyer Performance

You don't wait until your automobile breaks down. You keep it in good running condition with periodic tune-ups —because it pays! *It pays with flyers too!*

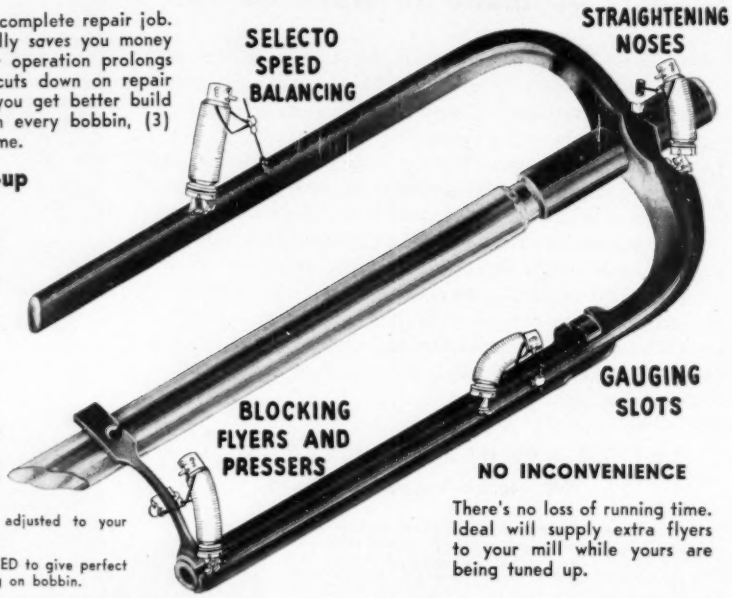
Ideal Machine Shop's FLYER TUNE-UP SERVICE is a complete package of all the conditioning services needed to put a normal flyer (not in need of major repairs or rebuilding) in tip-top operating condition.

IDEAL'S FLYER TUNE-UP SERVICE

Cost is small compared to a complete repair job. In fact, Flyer Tune-Up actually saves you money in these ways: (1) Smoother operation prolongs life of flyers and spindles, cuts down on repair and replacement costs, (2) you get better build and more uniform quality on every bobbin, (3) you reduce expensive down-time.

Ideal's Flyer Tune-up Includes:

- SELECTO-SPEED BALANCING* an exclusive Ideal process, balances every flyer at the exact running speed specified by your mill. By having every flyer on your frame balanced at the same speed—the speed of the frame—you get the smoothest, steadiest flyer operation known today.
- NOSE STRAIGHTENING, a newly-developed Ideal service, presses off-center flyer noses into perfect alignment with barrel and spindle, eliminating the jerking motion which causes thick and thin places in roving.
- SLOT GAUGING—Flyer slots adjusted to your specified hank roving.
- FLYERS AND PRESSERS BLOCKED to give perfect shape and maximum build of roving on bobbin.



NO INCONVENIENCE

There's no loss of running time. Ideal will supply extra flyers to your mill while yours are being tuned up.

Don't wait until your flyers *demand* repair. Start now on a regular schedule of periodic flyer tune-ups. See our representative, or write us for full details.

IDEAL MACHINE SHOPS, Inc.

Phones 4161 and 4391

BESSEMER CITY, NORTH CAROLINA

27TH YEAR OF CONTINUOUS SERVICE TO TEXTILE MILLS

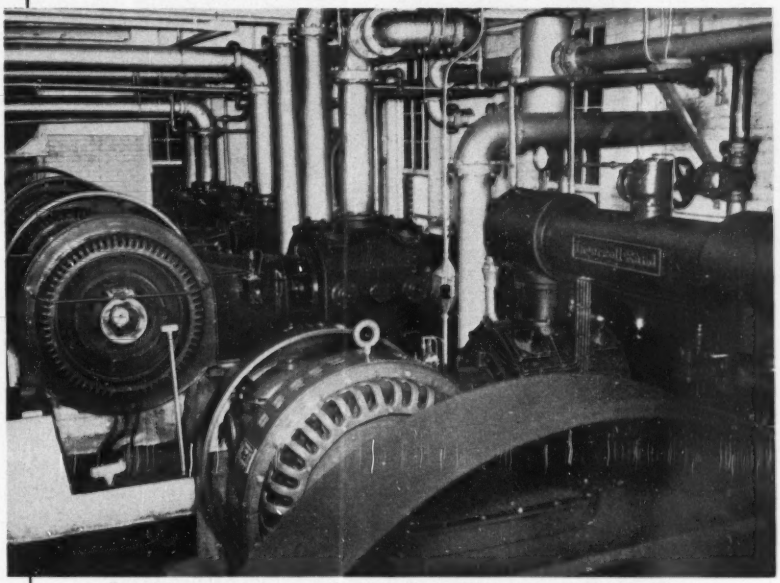
Some of the things AIR POWER is doing in Textile Mills

- AGITATE LIQUIDS
- MOVE SOLUTIONS BY DISPLACEMENT
- OPERATE HOISTS AND LIFTS
- CLEAN MACHINERY
- OPERATE AIR MOTORS
- CONTROL AUTOMATIC SPRINKLER SYSTEMS
- HUMIDIFY
- EVAPORATIVE COOLING
- OPERATE BALING PRESSES
- SPRAY LIQUIDS ON FIBERS AND CLOTH
- LOAD ROLLS BY AIR CYLINDER
- OPERATE PNEUMATIC TOOLS
- RAISE AND LOWER FOLDING MACHINE TABLES
- OPERATE CONTROL INSTRUMENTS
- OPERATE LAUNDRY-TYPE PRESSES
- OPEN AND CLOSE DOORS AUTOMATICALLY
- DEFLECT GOODS BY AIR JET
- CONTROL COMBUSTION IN BOILERS
- DO WOOL AND COTTON-ROLL PICKING
- DRY YARN
- CONVEY WOOL AND FIBERS
- DO VACUUM CARD STRIPPING
- MAINTAIN NYLON THREAD TENSION BY AIR JET
- OPERATE AIR CLOTH GUIDES

for dependability and low cost

It's I-R *for* AIR POWER

at Exposition Cotton Mills



Part of the compressor room at Exposition Cotton Mills, showing the 125-horsepower **XRE** two-stage 100-psi compressor (foreground) and three of the four 125-horsepower **ES** single-stage units, equipped with 3-step clearance control for maintaining 30-psi pressure within a 2-psi range.

It takes a lot of *air power* to operate a big, modern textile plant like the Exposition Cotton Mills. The compressors that supply this air power must be able to stay on the job around the clock, day after day, year after year. Operating economy is mighty important, too.

That's why Exposition is so well pleased with the I-R equipment which supplies *all* of its air-power requirements. Four Ingersoll-Rand, ES compressors installed as part of Exposition's multi-million dollar modernization program were installed by the American Moistening Co. for the operation of evaporative cooling atomizing heads. These machines have *never* had an enforced shut-down. The same is true of the **XRE** compressor, installed in 1945, for general mill service. It has given approximately 50,000 hours of trouble-free operation.

Dependability like this—plus high operating efficiency and ease of inspection and maintenance—makes I-R compressors an excellent long term investment for any textile plant. Your nearest I-R representative will be glad to give you complete information on the right equipment for *your* air-power requirements.

Ingersoll-Rand

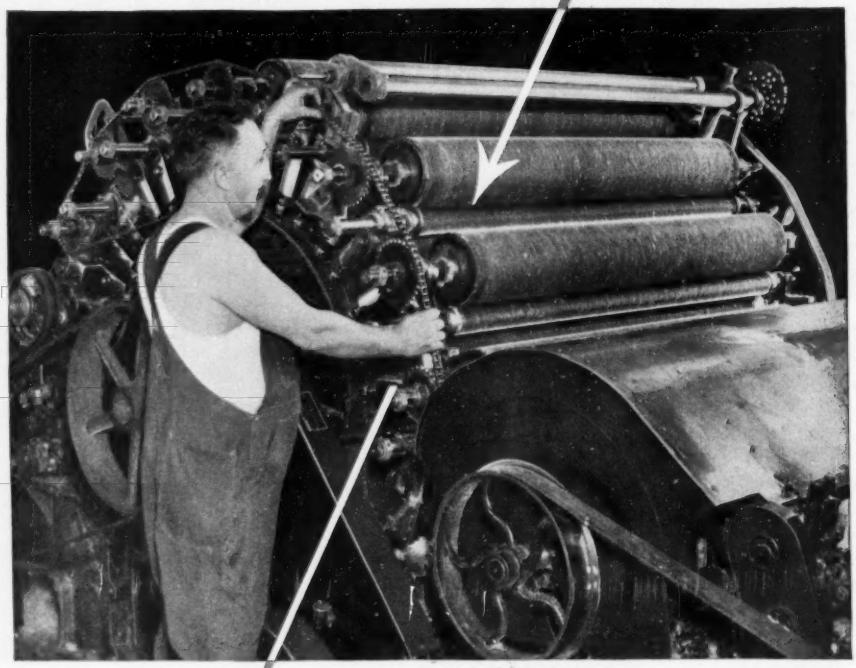
11 Broadway, New York 4, N. Y. 656-1

COMPRESSORS • AIR TOOLS • ROCK DRILLS

TURBO BLOWERS • CONDENSERS • CENTRIFUGAL PUMPS • DIESEL AND GAS ENGINES

A CARD IS NO BETTER THAN ITS

CARD CLOTHING



That's why a relatively small investment in Tuffer Card Clothing gives such a handsome return. Its uniform, precise construction permits the carder to make the most of his skill and get **full production** from the carding machines.

Tuffer is the **proved** card clothing . . . proved in woolen and cotton mills throughout the industry. Specify it on your next order . . . let it prove itself on your cards.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C.

Branches: Philadelphia, Pa. and Blanco, Texas *Direct Representation in Canada* A-2

TUFFER CARD CLOTHING

IMPROVES PRODUCTION ALL ALONG THE LINE

Of Course CLARK IS IN EXPOSITION'S PARADE OF PROGRESS

EXPOSITION COTTON MILLS, like many others, installed CLARK fork-lift trucks and the modern handling methods they implement, to increase and improve production and at the same time reduce handling costs—a most natural and a most profitable step in the Textile Industry's impressive Parade of Progress.

Throughout the Textile Industry, CLARK fork-lift trucks, industrial towing tractors and powered hand trucks, are cutting handling costs, increasing productivity, making available every *cubic* inch of storage capacity, reducing accidents and damage losses, and freeing unskilled labor from slow, expensive manual handling for better jobs.

CLARK materials-handling equipment gives More Power to Manpower—a tremendously important consideration in this day of growing manpower shortage.

CLARK materials-handling equipment is absolutely necessary to the *most* economical, the *most* efficient and the *most* profitable operation of any mill. The hundreds of mills already enjoying its incomparable advantages regard it as *indispensable*. No mill, no factory, no shop, no industry and no distribution system *can afford to be without it.*

The CLARK way doesn't *cost*—it PAYS!

CLARK materials-handling equipment doesn't take years, or months, or weeks to boost productivity and to make apparent the many other advantages of its use. These accomplishments begin the very day it is put to work, and from the very start the savings on handling costs run anywhere from 20 per cent to the almost unbelievable figure of 90 per cent.

The CLARK Dealer in your area—he's listed in the Yellow Pages of your Telephone Directory—stands ready to survey your operation, and to make sound, practical recommendations concerning any phase of your materials handling. No nickel or dime ever will yield a bigger profit than the one you spend to call him, and no stamp can be put to better use than the one you use to mail the accompanying coupon for literature and further information concerning CLARK's Leadership Line of Modern Materials Handling Equipment and what it can do for you.

WHO CAN AFFORD *NOT TO* INVEST IN SAVINGS OF SUCH PROPORTIONS?

CLARK ELECTRIC AND GAS POWERED **FORK TRUCKS**

AND POWERED HAND TRUCKS · INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION · **CLARK EQUIPMENT COMPANY** · BATTLE CREEK 61, MICHIGAN

Please send: ☐ Condensed Catalog ☐ Textile Booklet.

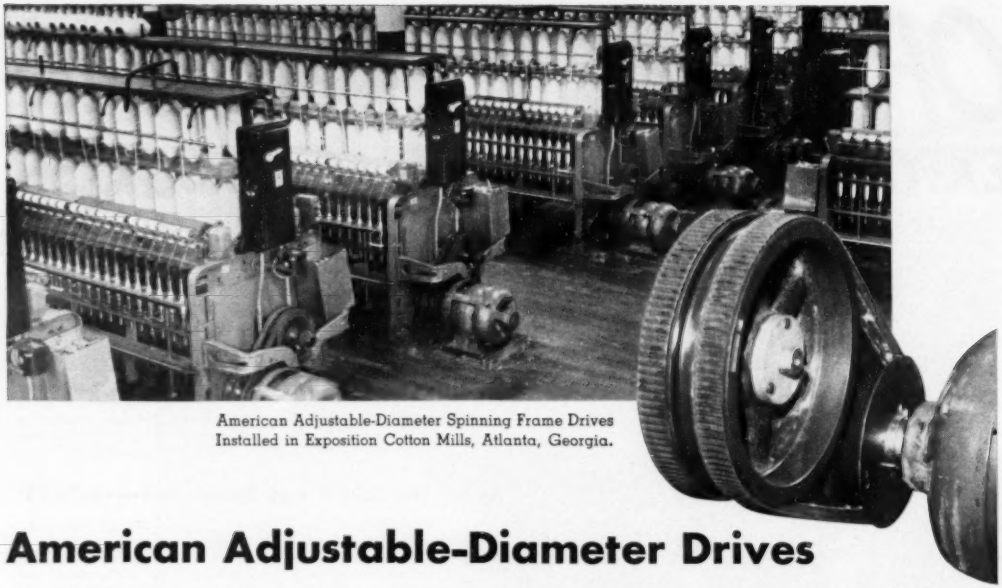
Name_____

Firm Name_____

Street_____

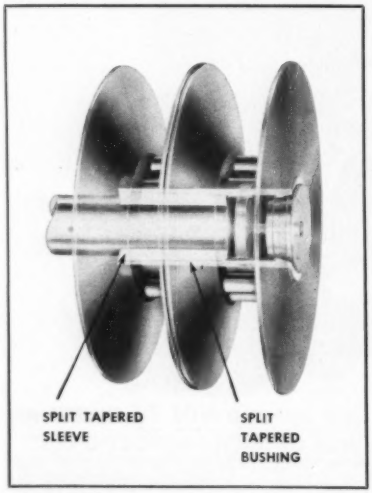
City_____ Zone____ State_____

AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS



American Adjustable-Diameter Spinning Frame Drives Installed in Exposition Cotton Mills, Atlanta, Georgia.

American Adjustable-Diameter Drives improve output for Exposition Cotton Mills



Phantom view of "R" Section Sheave. Also available in "A", "B", "C", and "Q" Section Sheaves.

● The management of Exposition Cotton Mills is to be congratulated on their new, modern plant. They know cotton—and they know machinery.

They know that the productivity of a machine depends on the proper speed—the *exact* speed for maximum *production* and highest *quality*.

To provide the proper speed, they chose infinitely variable American Adjustable-Speed Drives, including the unique Double-Taper Wide-Range Adjustable-Diameter driving sheaves, Wedgtite Companion Sheaves, Wedgbelts, and Adjusto-Slide Motor Bases.

The exclusive "double-taper" hub construction of these adjustable sheaves assures long, quiet, trouble-free operation. The sheaves are easy to mount because of their split-tapered bushings. They are quiet-running and permanently easy to adjust because their split-tapered sleeves expand to lock the flanges into "solid" sheaves during operation. Thus all peening and fretting of moving parts is eliminated and speed changes remain easy to make.

Follow the lead of this and other progressive cotton mills. Get complete information on these drives by writing for a copy of the American Double-Taper Adjustable-Diameter Drives Bulletin.

The American Pulley Company **4230 Wissahickon Avenue, Phila. 29, Pa.**

AMERICAN
Adjustable-Diameter Drives

BUY AMERICAN—THE LEADER IN POWER TRANSMISSION FOR 55 YEARS

At "Exposition" in Atlanta, it's the

FLOR-O-SEAL FLOR-TONE

Dry Maintenance Method that keeps floors looking like this!

Floors like this, in Atlanta's Exposition Cotton Mills, are hard, bright and easy to maintain because FLOROSEAL *penetrates* deep to keep oil, moisture and grease out while FLORTONE stops dirt and grit at the surface—before it is "ground in." This is the famous *sealer-maintenance* method that more and more mills are discovering to make every dollar and man-hour count for brighter, safer and longer-wearing floors.

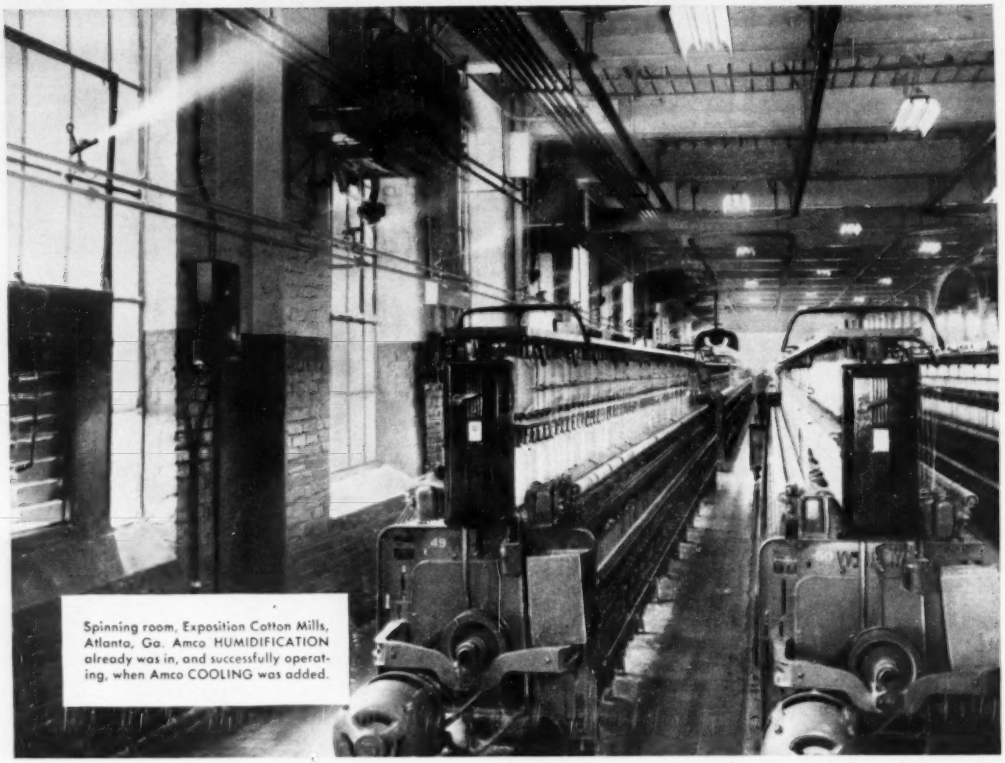
selig

The SELIG Company

Manufacturing Chemists Since 1896

ATLANTA
DALLAS HOUSTON
NEW ORLEANS

"Call the SELIG Man Near You"



Spinning room, Exposition Cotton Mills, Atlanta, Ga. Amco HUMIDIFICATION already was in, and successfully operating, when Amco COOLING was added.

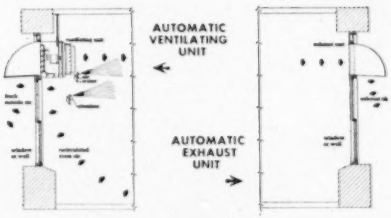
A YARN WORTH SPINNING

Here's a modern "*see*" story — with important advantages for you in better quality, increased output, reduced waste.

You can *see for yourself* the advantages of Amco humidification . . . in correct regain, even yarn counts, reduced waste, improved output and quality, greater worker comfort and efficiency.

But do you know how easily you can add COOLING to humidification, with a ductless system? You discard nothing and make only a modest addition to your present humidification system. Add evaporative cooling room by room as you need it. Modify it any time it is convenient.

The cooling effect of evaporating twelve pounds of water per hour is equivalent to one ton of refrigeration. That's the measured result of evaporative cooling in one hour in a given area. For example, in cotton weaving at 80% relative humidity an Amco ductless evaporative cooling system can economically produce an indoor temperature approximately 7 degrees above the outside wet bulb temperature.



Ventilating units draw in a controlled amount of fresh air, additional atomizers provide extra evaporation for absorbing excess heat. Controlled vents exhaust spent air and heat. Automatic temperature controls cover winter and summer conditions. Atomizers are self-cleaning. Controls are extremely responsive.

Amco offers both ductless and duct systems of humidification and cooling. An Amco engineer will give you unbiased advice on the system best suited to your requirements.

AMCO HUMIDIFICATION and COOLING

AMERICAN MOISTENING COMPANY, AFFILIATED WITH GRINNELL CO., INC., PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

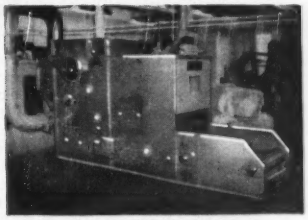
Paddle Dyeing Machine

One reason why modern spindles can keep in step with the growing demand for every type of textile—friction is minimized by SKF bearings *made for the purpose.*

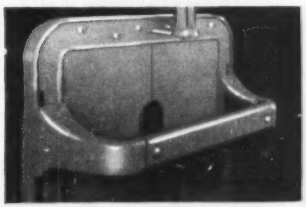
SKF has always worked closely with designers of all types of textile machinery, has provided for and often anticipated needs for bearings for service in modern, high-speed machinery.

Today, when SKF Bearings are used, power consumption is reduced on an average of 15%. Smaller motors and starting equipment function effectively. Twist is more uniform, yarn breaking strength is increased.

SKF Bearings have proved their efficiency, economy and dependability in textile machines of every description. It will pay you to give them careful consideration. 7225



Feeder



Outboard Cylinder Bearing Box of Spinning Frame

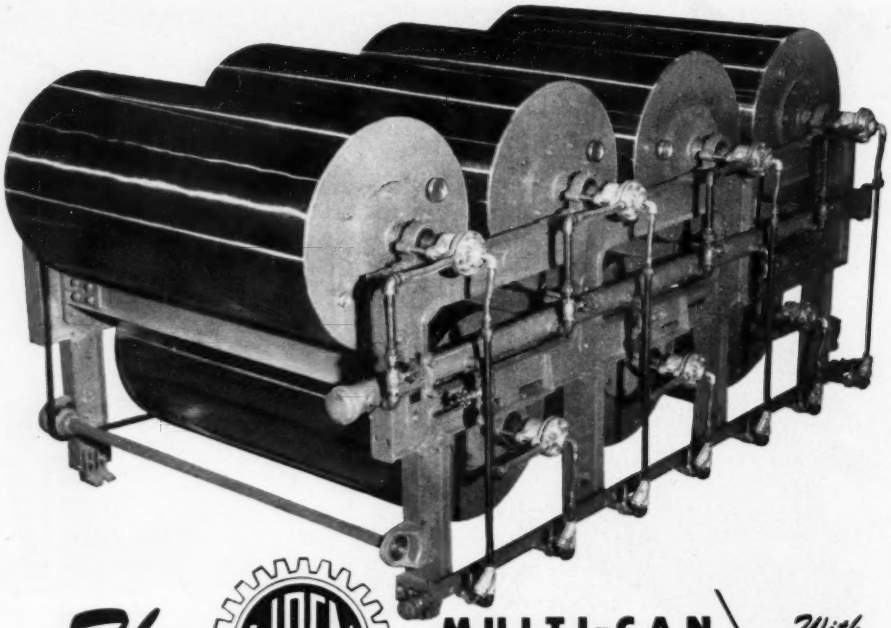
SKF Bearings make major contributions to greater efficiency, more economical operation of all types and sizes of textile machinery.

8 REASONS WHY SKF IS PREFERRED BY ALL INDUSTRY

integrity
craftsmanship
metallurgy
tolerance control
surface finish
product uniformity
engineering service
field service

SKF
BALL AND ROLLER BEARINGS

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
—manufacturers of **SKF** *and* HESS-BRIGHT *bearings.*



The WPF&M MULTI-CAN SLASHER

With 5, 7, 9, or 11 30" CYLINDERS

The WPF&M Multi-Can Slasher is designed to produce quality warps from fibers suited to this type slasher, at high speed and low operating costs.

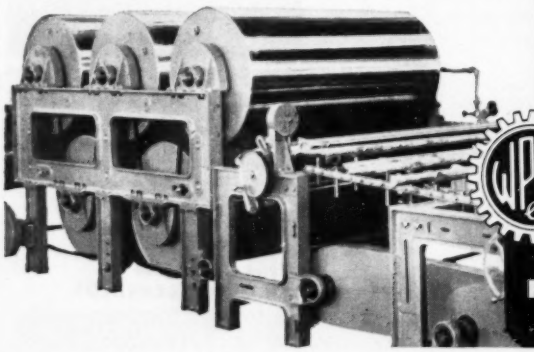
Furnished with either 5, 7, 9 or 11 thirty-inch diameter cylinders, the WPF&M Multi-Can Slasher can be adapted and equipped to fill any mill requirement.

If existing head ends and size boxes are in good condition, they can easily be adapted for use with the Multi-Can cylinder section. Or, the WPF&M Multi-Can Slasher can be furnished complete with any of several types of modern WPF&M head ends, drives and size boxes.

The polished, stainless steel cylinders, with welded-in steel heads, can be operated at pressures up to 35 psig. Rotary packless steam joints and sealed, self-aligning anti-friction bearings provide smooth, trouble-free operation. Each cylinder is equipped with vacuum valve, thermometer, condensate trap and flexible pipe connections. Temperature control can be provided for manifold, group or individual cylinder control.

Roller chain sprocket drive with tension idlers is smooth, quiet running. Either mechanical or electrical type tension control between cylinders and size box, and head end and cylinders are available. Heavy rigid cast iron frames, accurately machined to maintain alignment, support the cylinders.

The WPF&M Multi-Can Slasher is one of the complete line of modern Slashers manufactured by the West Point Foundry & Machine Company—specialist in Slasher Room machinery and equipment.



WPF&M WARP PREPARATION MACHINERY

STANDARD 2 and 3 CYLINDER SLASHERS
MULTI-CAN SLASHERS
WPF&M HI-SPEED 4 CYLINDER SLASHERS
CALLAWAY SAMPLE SLASHER

SLASHER MODERNIZATION EQUIPMENT

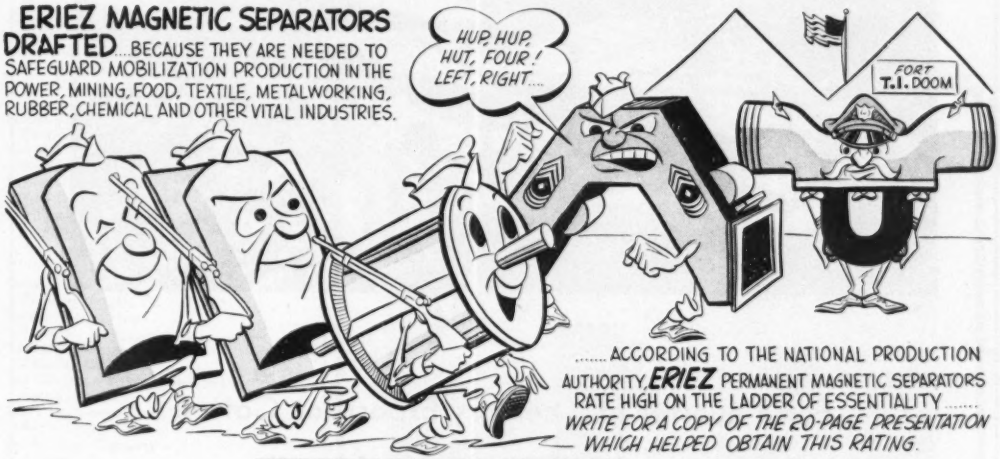
HI-SPEED HEAD ENDS WITH STRETCH CONTROL
STANDARD WPF&M HEAD ENDS
MULTI-MOTOR DRIVES and CONTROLS
TEMPERATURE, SPEED and TENSION CONTROL DEVICES
HI-SPEED SIZE BOXES
MODEL 50 SIZE BOXES
STANDARD SIZE BOXES
SIZE KETTLES and EQUIPMENT

WEST POINT FOUNDRY & MACHINE CO.
WEST POINT, GEORGIA

ERIEZ MANUFACTURING CO., ERIE, PA., U.S.A. • PRODUCERS OF MAGNETIC SEPARATORS AND SELLERS OF (RCA) ELECTRONIC METAL DETECTORS

ERIEZ MAGNETIC SEPARATORS DRAFTED

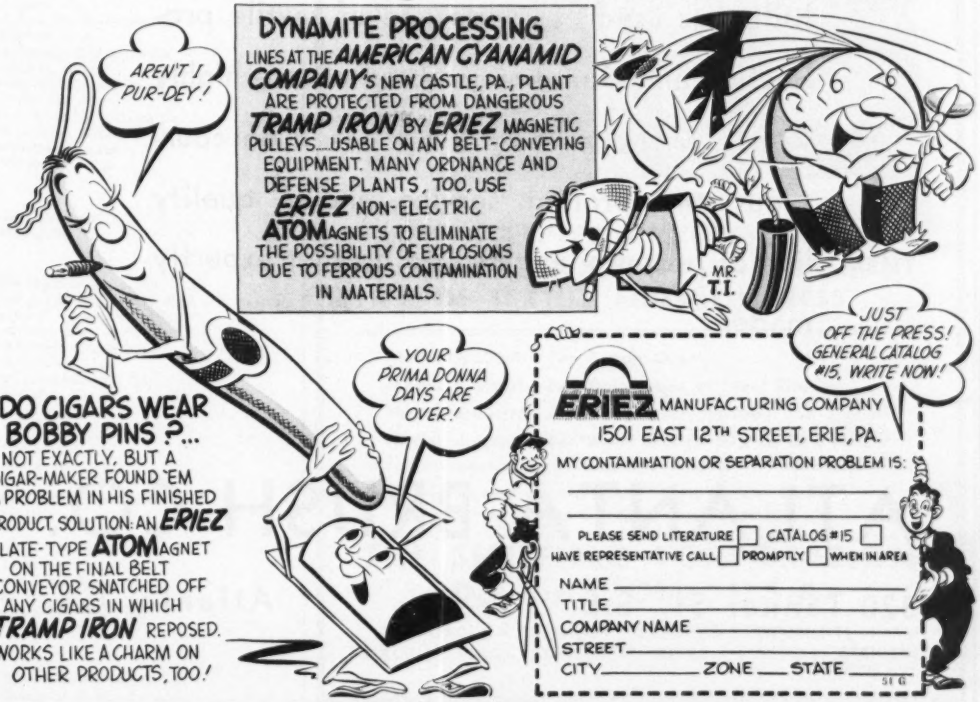
..BECAUSE THEY ARE NEEDED TO SAFEGUARD MOBILIZATION PRODUCTION IN THE POWER, MINING, FOOD, TEXTILE, METALWORKING, RUBBER, CHEMICAL AND OTHER VITAL INDUSTRIES.



.....ACCORDING TO THE NATIONAL PRODUCTION AUTHORITY, **ERIEZ** PERMANENT MAGNETIC SEPARATORS RATE HIGH ON THE LADDER OF ESSENTIALITY..... *WRITE FOR A COPY OF THE 20-PAGE PRESENTATION WHICH HELPED OBTAIN THIS RATING.*

DYNAMITE PROCESSING

LINES AT THE **AMERICAN CYANAMID COMPANY**'S NEW CASTLE, PA., PLANT ARE PROTECTED FROM DANGEROUS **TRAMP IRON** BY **ERIEZ** MAGNETIC PULLEYS....USABLE ON ANY BELT-CONVEYING EQUIPMENT. MANY ORDNANCE AND DEFENSE PLANTS, TOO, USE **ERIEZ** NON-ELECTRIC **ATOM**AGNETS TO ELIMINATE THE POSSIBILITY OF EXPLOSIONS DUE TO FERROUS CONTAMINATION IN MATERIALS.



DO CIGARS WEAR BOBBY PINS ?...

NOT EXACTLY, BUT A CIGAR-MAKER FOUND 'EM A PROBLEM IN HIS FINISHED PRODUCT. SOLUTION: AN **ERIEZ** PLATE-TYPE **ATOM**AGNET ON THE FINAL BELT CONVEYOR SNATCHED OFF ANY CIGARS IN WHICH **TRAMP IRON** REPOSED. WORKS LIKE A CHARM ON OTHER PRODUCTS, TOO!

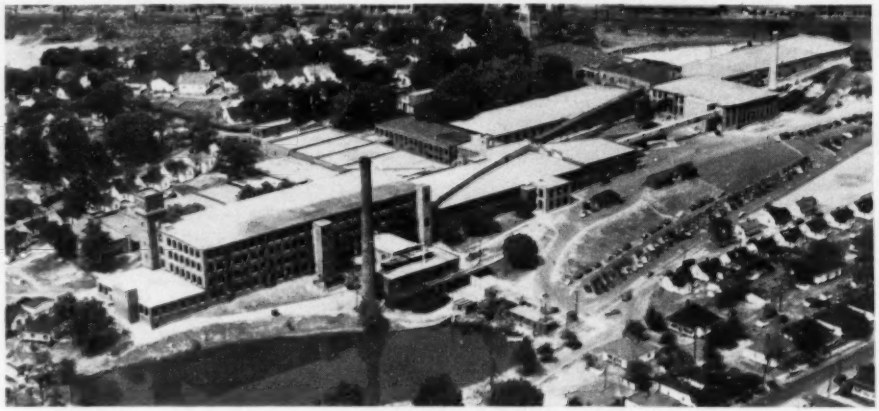
ERIEZ MANUFACTURING COMPANY
1501 EAST 12TH STREET, ERIE, PA.

MY CONTAMINATION OR SEPARATION PROBLEM IS:

PLEASE SEND LITERATURE ☐ CATALOG #15 ☐
HAVE REPRESENTATIVE CALL ☐ PROMPTLY ☐ WHEN IN AREA

NAME _____
TITLE _____
COMPANY NAME _____
STREET _____
CITY _____ ZONE ___ STATE _____

51 G



For a quarter of a century Exposition Cotton Mills has used our wide line of textile production and maintenance brushes... a highly valued friendly relationship based on courteous and prompt service and a quality line of properly engineered brushes expertly made.

ATLANTA BRUSH CO.

320 Tanner St., S.E. Atlanta, Ga.

Names and Addresses of Suppliers

Exposition Cotton Mills Modernization

(*Story Pages* 129-140)

A

Abington Textile Machinery Co.
19 Congress St., Boston, Mass.
Addressograph-Multigraph Corp.
1200 Babbitt Rd., Cleveland, O.
Allis-Chalmers Mfg. Co.
Milwaukee, Wis.
American Moistening Co.
Providence, R. I.
American Pulley Co.
4200 Wissahickon Ave., Philadelphia, Pa.
Armstrong Cork Co.
Lancaster, Pa.

B

Barber-Colman Co.
Rockford, Ill.
Barreled Sunlight Paint Co.
Providence, R. I.
Battey Machinery Co.
Rome, Ga.
The Bigelow Company
New Haven, Conn.

C

Canedy-Otto Mfg. Co.
Chicago Heights, Ill.
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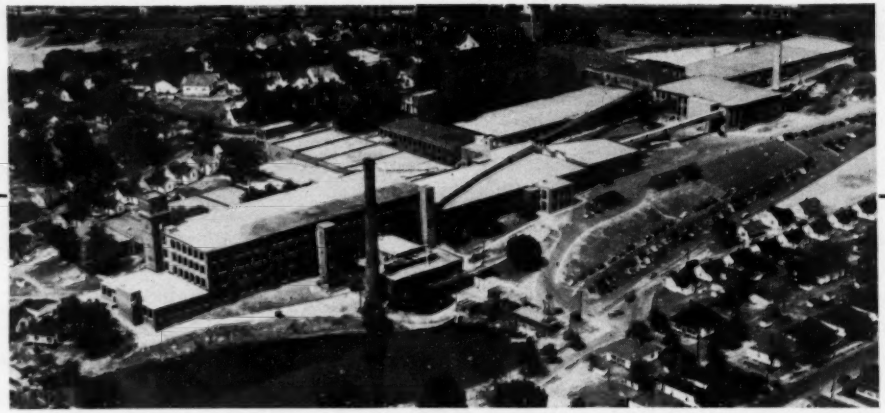

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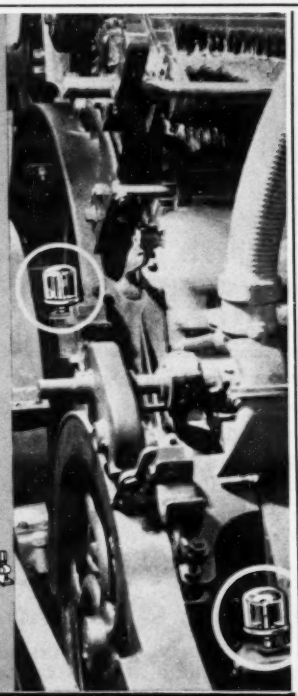

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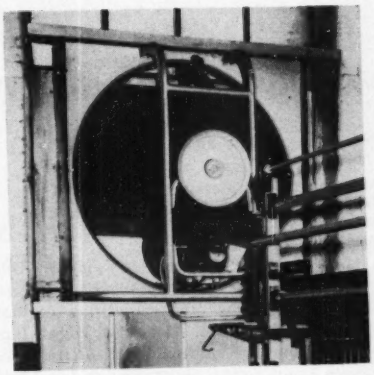

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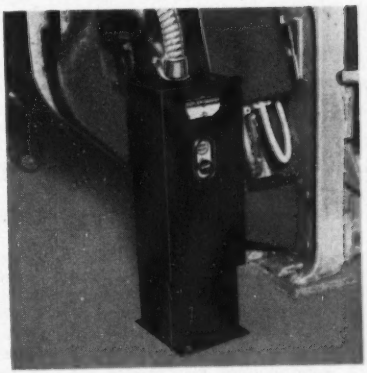

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Comments on Rejected Picker Laps

EDITOR TEXTILE INDUSTRIES:

Most mills with cotton carding and spinning departments have some method of picker lap control. A weight tolerance is often set up, this varying with the type product being made and with the ideas of mill management. The tolerance figure is usually plus or minus one-half to three-quarters of one pound. What becomes of the laps which weigh outside this tolerance?

We have observed several methods of handling this problem over the past years and some of these methods may be summarized as follows:

(1) **The set-back picker.** One method is to use an extra picker; a finisher picker with a regular feed apron. Heavy or light laps may be marked with distinguishing colors and two light and two heavy laps would be placed on the feed apron and new laps run. If the new laps are out of tolerance they should be marked light or heavy and run again.

(2) **Re-running laps on the regular pickers** is another method of handling rejected laps. A rack at the back of the regular pickers is utilized to hold the bad laps and slowly feed them back into the pickers, along with the regular stock.

(3) **Pairing light and heavy laps in the card room** constitutes another way of getting rid of the rejected laps. Stack the light and heavy laps separately in the picker room, properly marked, of course, and have the lap haulers take them to the card room in pairs. Many lap trucks are made to carry either four or eight laps, so either two or four of each of the light and heavy laps would be taken to the card room at the same time. The theory behind this method is that the resultant light and heavy card would tend to even up when run on the drawing.

(4) Another method, similar to that in (3) is to have one close tolerance, then a wider tolerance above and below the close tolerance. Laps within the first tolerance would be passed without question. Laps within the next tolerance would be kept separate and paired for running in the card room. Laps outside the greater tolerance would be torn up and sent back to the opening room to be handled as waste.

(5) Still another method of handling this problem is to keep the rejected laps separate, but without any regard to whether they are light or heavy. They may

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Contributions eligible for the prize must not have appeared elsewhere and must not be sent to any other publication.

All material will be paid for at regular space rates, upon acceptance, irrespective of the contest winner. Advise when submitting entry if participant's name may be used. Only one award will be made at the close of each contest.

Participants are not restricted as to number of items submitted to compete in the contest. Each entry should be described in sufficient detail to make it easily understood, and where possible, glossy photographs or pencil sketches should be included. Finished drawings are not necessary.

All entries for this contest must be postmarked not later than midnight, July 15, 1951. Address: Editor "Textile Industries," 806 Peachtree Street, N. E., Atlanta 5, Georgia.

be marked to indicate that they are sub-standard and taken to the card room and run on certain cards, as widely separated as possible. If the card sliver went to the same drawing frames at all times, then it would not be necessary to mark the sliver from the cards running the substandard laps.

If the sliver from the cards were run at random on any drawing frame where it may be needed, then it would be necessary to mark this sliver so that sliver from more than one card running sub-standard work would not be run on the same drawing frame. So even on conventional drawing, only one end in six would have sliver originating from the rejected lap.

All of the five methods of running sub-standard laps have their good points, and also their weak points. Any system which requires the lap to be re-run tends to damage the stock that much more, and possibly increases the number of neps. There is also the matter of added cost in this extra processing.

It is difficult to keep the light and heavy laps separate, and this requires close supervision to be sure that laps are properly paired when going to the card room and when laid on the cards.

The ideal situation would be to eliminate rejected laps! (Maybe some kind reader can tell us how to do this.) But since we are likely to have sub-standard laps with us for a long time to come, we would like to see some discussions from the readers of How Other Men Manage as to the way they are handling this problem.

Contributor No. 8379

Card Stripping Methods Blamed for Variation in Drawing Sliver

Question Briefed: *Variation in the weight of drawing has been troublesome to us recently. We have taken three weighings from the same head at various times during the day and have found as much as five grains difference in the weight.*

A 14-oz lap is used to make a 65-grain card sliver. Drafts of 6 on first drawing and approximately 7 on finisher drawing produce a 55-grain finisher drawing sliver. Cards are manually stripped twice each eight hours.
(Contributor No. 8324, *Oct.* '50.)

Editor Textile Industries:

Replying to Contributor No. 8324, regarding variation in the weight of drawing sliver, his trouble appears to be in the method and schedule of stripping the cards.

Allowing the cards to run four hours between stripping periods naturally loads up the cylinders and doffers, and this in turn produces a heavy and neppy sliver, especially between the third and fourth hour of operation. Immediately after stripping the cards, the weight of the sliver will decrease considerably, so that when the cards are doffed, a group of these cans will all go to the draw frame at the same time. It naturally follows that the weight of the drawing sliver will also decrease, and correspondingly increase as the heavier slivers come from the cards prior to stripping.

A maximum stripping period of three hours would certainly help to improve the variation in weight of both card and drawing slivers.

If it is practical under the mill conditions prevailing, try stripping the cards alternately, all the odd numbers first, and then the even numbers. This would stagger the weight of the card sliver going to the draw frame at each doff.

A more effective method would be to install continuous strippers, which should eliminate all possi-

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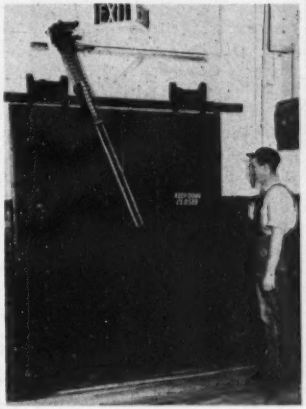

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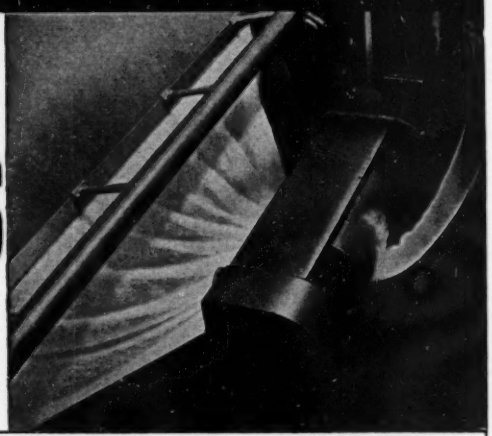

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bility of variations in card sliver caused by faulty stripping techniques and schedules. The card cylinders would only require brush stripping when being prepared for grinding if continuous strippers were used.

There are other factors which enter into variations in sliver from the card and drawing frames. First make sure that the cards are getting good even picker laps, and if possible, have these tested regularly with a lap meter. Then make sure that the card tenders are making good piecings when dropping in new laps.

Be sure that the card feed rolls are well lubricated, and if the cards are equipped with calender-roll pressure springs, see that the pressure is not too great, because indirectly this will cause serious defects in card sliver weights.

In producing a 65-grain card sliver from a 14-oz lap, the card draft is only 94 which seems rather low. 100 to 120 is about average under such conditions.

If production is to be maintained at the present level, a 60-grain sliver could be made from a 15-oz lap to help reduce the irregularities. It is a good idea to try to maintain 55 to 60 per cent relative humidity for satisfactory results.

CONTRIBUTOR No. 8364

Suggestions Offered to Remedy Jerked-in Filling on Box Looms

EDITOR TEXTILE INDUSTRIES:

We are having trouble with our C & K looms dragging or jerking in filling on the double box side of our goods. We spend quite a bit of money in our finishing room pulling these out by hand prior to finishing the goods.

According to our checks, an average of 5% of our looms are jerking in filling at all times in varying degrees of seriousness. Our loom fixers watch this matter closely. Our shuttles are lined with fur and we use clearer cloth liberally on the box end of our looms. Our fixers also watch for rough spots on shuttles, rebounding shuttles and bad box liners.

Our filling yarn is 32s single. We yarn dye, wind on Schweiter winders, and condition the yarn before sending to the weave room.

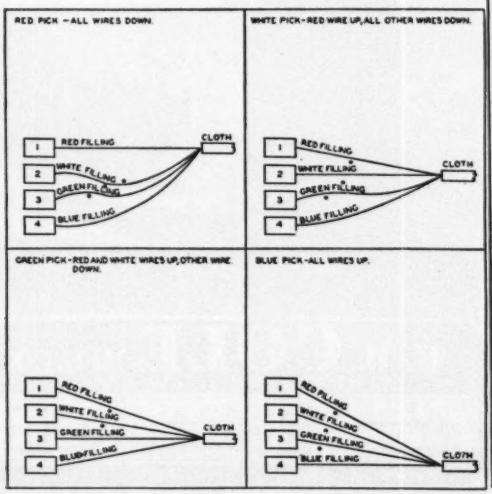
We are hopeful that some of your readers may have some helpful suggestions.

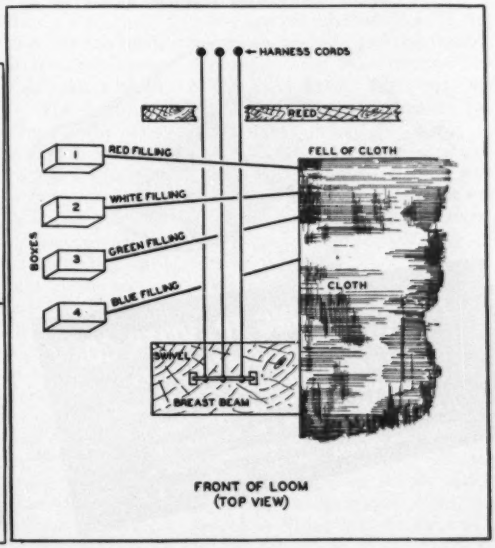
CONTRIBUTOR No. 8381

For the benefit of CONTRIBUTOR No. 8381, *and for those readers who may be having trouble with jerked-in filling and who did not see the article when it was first published, we present the following information which appeared in* TEXTILE INDUSTRIES *for November, 1947.—The Editors.*

WEAVING multiple color patterns on 4x1 drop-box looms can be troublesome because the filling from the idle shuttles is often jerked-in by the running shuttle. When the filling is jerked into the body of the cloth in this fashion, poor cloth or seconds result due to bad pick-outs, bad start-ups, etc. Production losses usually accompany stoppages caused by this trouble. Jerked-in filling occurs when weaving many fabrics on drop-box looms, especially on goods woven narrower than the

Fig. 1 (below); Fig. 2 (right).


RED PICK - ALL WIRES DOWN.
WHITE PICK - RED WIRE UP, ALL OTHER WIRES DOWN.
GREEN PICK - RED AND WHITE WIRES UP, OTHER WIRE DOWN.
BLUE PICK - ALL WIRES UP.
1 RED FILLING
2 WHITE FILLING
3 GREEN FILLING
4 BLUE FILLING
CLOTH



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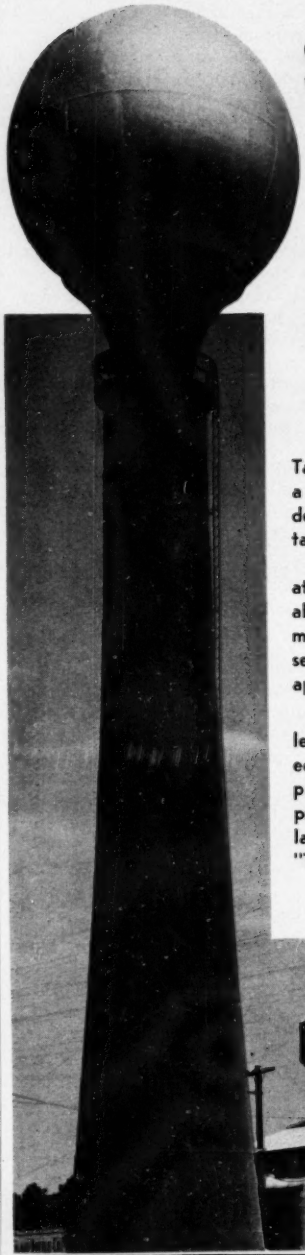

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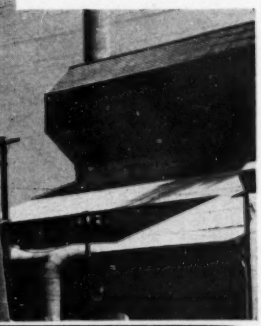

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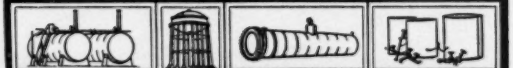


full capacity of the loom.

The device shown in the accompanying illustrations is offered as a solution to the problem as it was solved in a large mill. Figure 2 shows a top view of the arrangement which consists essentially of three wires fastened to a swivel mounted on the breastbeam. The wires pass through holes provided for them in the reed. Various methods for controlling these wires have been tried, however the simplest method is to operate them on the dobby head by pegging the pattern chain for them. They may also be operated by the box-motion.

The different filling threads can be controlled by these wires as shown in Figure 2. The arrangement shown is for four boxes, but modifications can be made to operate a smaller number of boxes. The wires are raised or lowered to prevent the idle filling threads from being jerked-in by the moving shuttle. The four possible positions for these wires are shown in Figure 1.

◆

EDITOR TEXTILE INDUSTRIES:

On the subject of jerked-in filling on C & K looms, and in answer to CONTRIBUTOR No. 8381, we can very well sympathize. We suffered too for a long time until we devised a simple arrangement by which we could hold other fillings separate and away from the one that was in use.

In our mill we have three and four-box patterns, and our arrangement consists of a lever that is controlled by the box motion and extends back under the loom so that it is just beneath the reed and about two feet below it. We have three leather straps that extend from this lever side-by-side and straight up to the arch of the loom, and they are fastened to the arch.

We have a five-inch spring, attached to the leather strapping, that is also connected to the arch. This is to keep tension on the leather strap so it may readily go back into place when there is no force on it from the lever which is attached to the box motion. Each of the leather straps has a small hole which is level with the race. Each hole accommodates a small wire which extends from a pivot point over the center of the warp beam head to a pivot finger attached to the top of the frame at the front of the loom.

The wires run through the reed, a small portion of the reed being knocked out, and through a small trench in the race. The trench is deep enough to prevent the wire from throwing the shuttle out as it passes over the wire. The entire operation is controlled by the movement of the boxes. Filling from the shuttles that are not in use is held up and out of the way, and only the filling in use has a straight run into the shed. By holding the other fillings out of the way, the active shuttle cannot pick up the other loose filling and jerk it in. The wires operate a short distance from the selvage on the drop box end of the loom.

If the foregoing explanation is not sufficiently clear, we should be happy to have CONTRIBUTOR No. 8381 visit with us to see the attachment in use in our mill.

CONTRIBUTOR No. 8385

◆

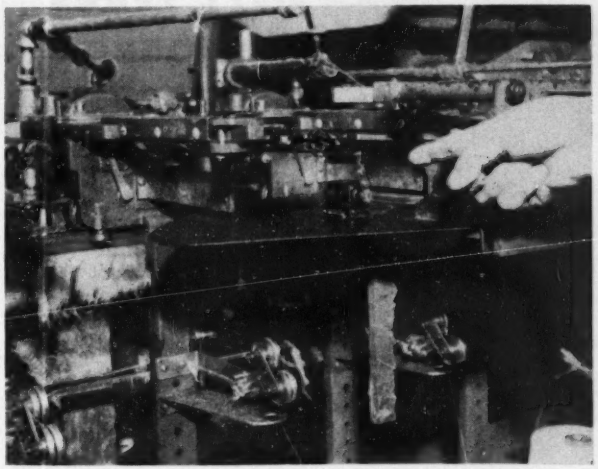
EDITOR TEXTILE INDUSTRIES:

We are afraid that there is not too much remedy for the trouble experienced by CONTRIBUTOR No. 8381. Practically everyone we know running box looms has trouble with jerked-in filling.

We have tried numerous measures, such as a lift wire at the box side of the loom. The lift wires are too much trouble to keep in operation properly and are not fully effective.

We have also tried using opossum fur at the end of the lay. This does, to some degree, help to keep the filling straight and eliminates some of the jerked-in filling caused by slack ends.

The greatest help we have found in preventing the trouble is to box the shuttle properly. If all the binders are in good shape, and if the shuttle is boxed just right, the jerked-in filling will be kept to a



Counter on Quiller Serves Useful Purpose

In one mill a counter installed on an Abbott quiller has proved to be a valuable aid determining actual production figures for use in computing piece rates for quiller operators. The counter is used in conjunction with a wage incentive plan in effect at the mill. The counter provides an index of downtime also.

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HOW OTHER MEN MANAGE

minimum on box looms.

CONTRIBUTOR No. 8386

◆

EDITOR TEXTILE INDUSTRIES:

We assume that the looms mentioned by CONTRIBUTOR No. 8381 are gingham looms.

Various and sundry methods have been employed to prevent trouble with jerked-in filling on these looms. One device has been used with some success in recent years. The device is somewhat complicated, and although it does a good job in some instances, we have observed that it becomes inoperative sometimes if it is not checked closely by the fixers who must keep it in good condition and properly adjusted.

Some mills have a practice of attaching some cords to the breast beam, allowing them to go through the pattern adjacent to the selvage and then attaching them to the whip roll. The cords are connected by a small spring or rubber band to allow them to be raised and lowered by being drawn through the heddle eye and still remain in a taut position. The cords raise or lower the filling ends as the operation of a given shuttle requires, at the same time keeping them out of the path of the operating shuttle.

Some mills use, instead of cords, some of the selvage ends by having them drawn in such a manner that they would be carried by a heddle eye. The heddle eye would not permit them to be woven into the fabric until the ends come near the front of the loom, turned through a porcelain eye and then returned to the whip roll. The selvage ends serve the same purpose as a small cord to elevate the filling from the inoperative shuttles and keep it out of the path of the operating shuttles.

CONTRIBUTOR No. 8387

◆

EDITOR TEXTILE INDUSTRIES:

In days past when we ran two box looms, we found that the least bit of excessive twist in the filling would give us trouble with jerked-in filling on the double box end of the loom. It may be worthwhile to check the twist in this instance.

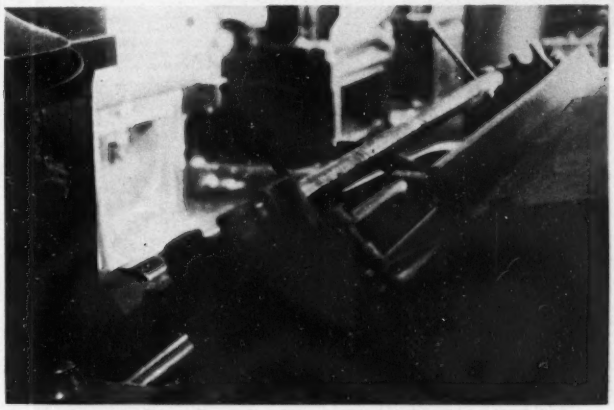
CONTRIBUTOR No. 8388

Builds Stripper Gauge for Whitin Cards

EDITOR TEXTILE INDUSTRIES:

A handy gauge for setting stripping stands on Whitin cards can be made as follows: bore holes and tap the ends of a piece of steel shaft the same size as the stripping roller. Put a 6" bolt in each of the holes. A flat piece of metal should be welded to the heads of the bolts to act as a foot. A lock nut should be put on each bolt to hold approximately the setting of the bolt to standard distance that the stripping roll should penetrate the card clothing.

Set the shaft in the stripping stand with the foot touching the clothing and then loosen the stands and either raise or lower them until the shaft is level. It is much easier for the grinder to check stands with a gauge than to follow strippers and check each stand as cards are stripped. A much more uniform setting is obtained by setting each card individually. The accompanying illustration shows how the gauge is used.



CONTRIBUTOR No. 8349.

Discussion on Metallic and Cushion Rolls

Question Briefed: *We should like to see a discussion from mills which still use the old type shell rolls and the reasons for continuing to use them instead of other types.*

Also, we are interested in experience with the new ball bearing top rolls. (CONTRIBUTOR No. 8173, *April* 1951.)

EDITOR TEXTILE INDUSTRIES:

I should like to present a few observations on the question of CONTRIBUTOR No. 8173 regarding the general merits of plain shell rolls, ball bearing top rolls, and solid rollers.

Top rolls of both spinning frames and fly frames have always been a source of bad work in many mills due to the problem of lubricating them properly without getting oil onto the stock. These two factors I believe brought on the development of the ball bearing top rolls more than anything else. My experience has been that solid rolls work very well on the back and middle lines in that these rolls turn very slowly and do not take too frequent oiling to keep them lubricated, but if they are used in the fast revolving front lines, they tend to run dry and stick if not lubricated frequently.

We have both common shell rolls and ball bearing shell rolls on the front lines of slubbers and both are giving satisfactory service. The common type shell rolls are removed from the frame once a week and cleaned and oiled and replaced in the frame. The ball bearing rolls are lubricated once each six months and have been in operation for over three years with no failures so far.

The common type shell rollers are removed from the frame by the third shift when the frames are shut down for cleaning. The first shift oils the shells and places them back in the frame on Monday morning before the frames are started up. I have checked these rollers many times at the end of the week and find very few of them dry. The ball bearing rollers are removed from the frame and lubricated by the overhaulers at the same time that steel rollers are removed and cleaned and the stands levelled and packed with fresh grease after cleaning.

We used vaseline at first to lubricate the ball bearing rollers but it did not prove satisfactory because it was too thin and tended to dry and cake before the six month cycle was completed. Most oil companies can furnish a grease suitable for these rollers.

We have run many tests on all three types of top rollers and find that both types of the shell rollers make a more uniform roving and yarn than the common type roller. In fact one test showed that the yarn from the shell roller was approximately 5% stronger and had

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3% less variation than that from frames with common type rollers. The ball bearing top roller showed an even more marked increase in tensile strength along with less variation than either of the other type rollers. Of the three types of rollers, I prefer the ball bearing type top roller because there is much less maintenance involved, and there is less danger of oil getting onto the stock. I have found that although the ball bearing rollers cost much more than the other types, they are cheaper in the long run.

The set-up that we have found most satisfactory is to use common type rollers in the middle and back lines and to use ball bearing top rollers in all front lines. This set-up gave us almost as good a yarn as the all-ball bearing top roll frame and the initial cost is much less. As speeds are increased and drafts tend to go up, it is becoming more and more evident that eventually all top rollers should be of the ball bearing type. On present types of machinery it is satisfactory to use common type top rollers in middle and back lines and the ball bearing type in front lines.

CONTRIBUTOR NO. 8376

Pointers Offered for Proper Care of Leather Belts

EDITOR TEXTILE INDUSTRIES:

There are many places where flat type leather belts are being used in mills. Although the initial cost of this type of belting may be more than other types, proper care and maintenance can increase the life of this belting to a point where it is hardly more expensive in the long run than other types with lower initial costs.

Proper treatment of belting means constant checking on the part of the supervisor, section

man, and machine operator. It is too late to prevent replacement of a belt after it has been chewed to pieces on the flange of a pulley or burned because it was allowed to run slack. A few suggestions on how to increase life of belting, as determined in our mill, are as follows:

(1) Both motor and frame pulleys should be in line with each other. If pulleys are out of line or if their bearings are not parallel, undue strain will be placed on the belt and may cause premature failure of the belt. If a flange pulley is used on the motor, care should be taken that the belt does not run up and onto the flange when the frame is switched on or off. If tight and loose pulleys are used on the machine, care should be taken to see that the pulleys match properly and that they are of the same diameter.

(2) Belt buckles should be put in properly. When a belt is shortened it is necessary to remove the buckle and cut a piece of the belting out to compensate for stretch. When the belt is cut it is always a good idea to cut a little from each end of the belt so that both ends of the buckle will be put in a fresh spot. Also the ends of the belt should be trimmed so that the buckle will fit correctly. If ends of belt are not joined correctly the belt will not run true.

(3) Proper width and thickness of belting should be selected for each type of drive. The proper width and thickness of a belt is based on the size load it is necessary for the belt to carry. The width of the belt could vary from ½ inch up to 6 or 8 inches depending on the number of horsepower and amount of shock load it is necessary for the belt to transmit. Belting manufacturers can furnish the correct type of belt for each drive or they will be glad to give the necessary data so the individual can do his own calculating. The right size belt for the job in question will go a long ways toward giving you the type service you expect out of leather belting.

(4) Belts should be cleaned at least once a week under normal conditions and more often under extremely dusty conditions or where there are excessive accumulations of lint. The inside surface of the belt or the part that comes in contact with the pulleys can be cleaned while the frame is running by pressing a stick against the belt and scraping the accumulated lint and grease off. If belt dressing is used, the liquid type should be used instead of the stick type as it penetrates the belt and makes it supple and does not collect lint like the stick type.

(5) Belts should be checked frequently to determine if they are too tight or too loose. Variations in humidity or temperature can cause belts to run too tight or too slack. If belts are too slack, slippage will result and cause the belt to get hot, lose its natural oil and become stiff, with a resultant shortening of life and efficiency. If the belt is too tight it will cause the pulleys to run hot and ruin them. Belts should be just tight enough so that a drag can be felt when it is shifted from loose to tight pulley.

(6) Belts should be taken down periodically and thoroughly cleaned and treated with a castor oil base dressing by the fixer or section man; this can be done while the frame is stopped for cleaning or for overhauling. This should not be a hit or miss proposition but should be done at regular intervals on a fixed schedule.

(7) The surfaces of all pulleys should be kept smooth and free from rough or sharp places as these will tend to snag or tear the belt, especially when it is being shifted from tight to loose pulley. Any frame that is hard to pull on should have its pulleys checked for rough places.

A good point to remember is that the right belt for the right job will give satisfactory service and a long trouble free life if it is given proper treatment.

CONTRIBUTOR No. 8378

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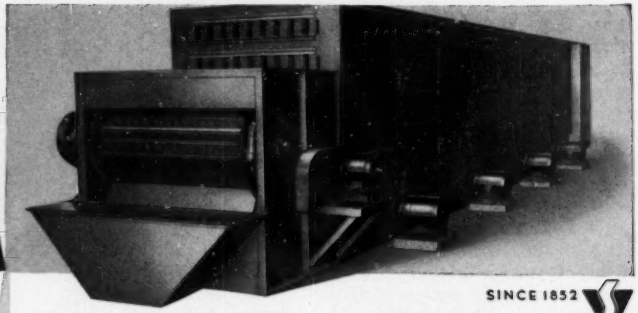

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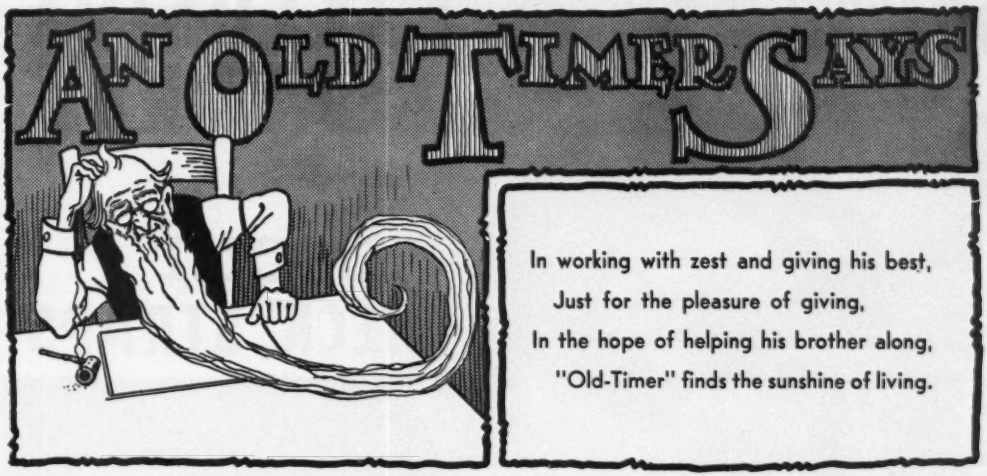
AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Figure Your Check Strap Cost

Last month OLD-TIMER *received a letter from "Jim," a progressive superintendent, requesting suggestions for carrying out his recently assigned responsibility for purchasing all supplies at his mill. Much helpful information was contained in* OLD-TIMER'S *reply, a portion of which was published, along with Jim's letter, in the June issue. Here is the second installment of* OLD-TIMER'S *comments.*

AS SHUTTLES and check straps are two of the more expensive loom supplies, suppose we set up an illustrative example for check strap cost.

There are several ways to date check straps, but the two ways we have used most are: (1) to use a set of steel dies, with large numerals to stamp the date on the end of each check strap as it goes on the loom. For example: we stamp near the end of the check strap the date thus 4/15/49. This date is covered by the check strap holder and therefore is not subjected to wear and remains distinct as long as the strap is on the loom. (2) Write the date on the end of check strap with a ball point pen and ink.

If you do not care to go to the trouble of keeping a check strap book similar to the shuttle book described earlier, it is a very simple matter to charge the number of check straps as they are given out to the section men. The following is based on three shifts the fifty weeks per year or 40 hours x 3 x 50 equals 6000 loom hours per year.

Suppose your check straps average 4000 hours each. Then you would be using about 3000 check straps per year. If check straps cost about 75¢ each that would run your check strap bill to about $2250.00 per year. Or 6000 hours x 2000 looms equals 12,000,000 loom hours. $2250.00 divided by 12,000,000 equals .000187¢ per check strap hour.

With this figure of the cost per check strap hour established for the make or brand of check strap you are using, you should try a more expensive strap to determine if the cost per check strap hour is more or less. Even if the more expensive (per pound) strap gives you the same cost per check strap hour but lasts more hours, it will pay you to buy it because you save the time a loom is stopped to change the strap.

What we mean is: if a more expensive strap runs more hours and costs more per pound, but the cost per check strap hour is the same as the cheaper check strap, due to paying more per pound, it will be economical to buy the higher priced strap. Besides, you are now in a position to talk intelligently to the check strap salesman. You

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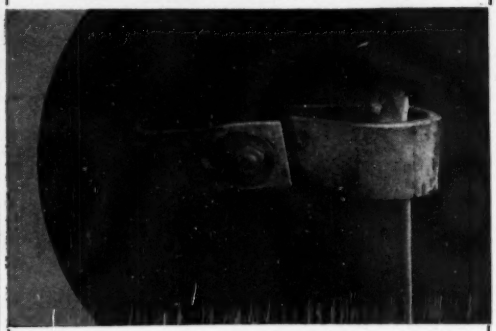

1 Bicut slots allow body of strap to drop . . . clearing binder bolts and nuts.

2 Bicut permits edges of straps to flare . . . accommodating the arc of picker stick.

3 Bicut Check Straps are sorted for weight to suit the width of loom and fabric being woven.

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know exactly what your check straps are costing you per loom hour. If Mr. Salesman can guarantee his strap to lower that cost, then you are ready to talk.

Here is an actual example: More than twenty years ago when a certain firm came out with a more expensive check strap than other firms, we tried it out and kept records as explained above. After two years we knew how many loom hours of service those straps gave and the cost per loom hour.

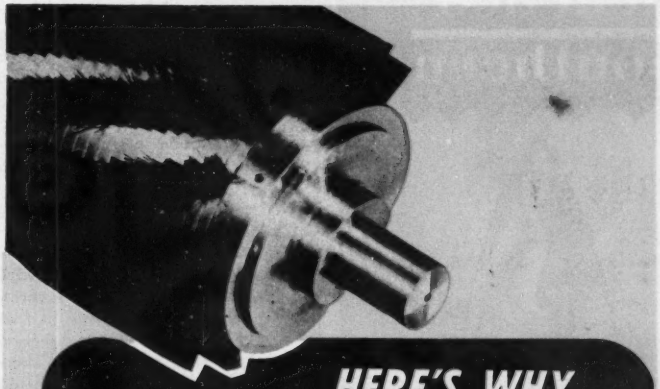
Then another firm came out with the same type of check strap and sold it for some less per pound than the other firm. Their salesman called on us and said his strap would last as long as the expensive strap we were buying and we could save some money by buying his strap.

O. K., we told him. We will give you an order for 2000 check straps (a very tempting order in those days), with this provision: we know from two years experience how many loom hours our strap will last. (Say, for example, that was 4500 hours.) We will date each one of your straps as we place it on a loom, and as each one of your straps wears out, if it has not run 4500 hours, will you give us a new strap for it?

"I'll take it up with my firm and let you know," the salesman replied.

Believe it or not, the firm agreed to those conditions. When the straps had run long enough to begin giving out we started sending back the straps which did not last the specified time. They promptly replaced them—that is, they replaced straps for about six months, then we heard no more from them and the salesman did not call again. We suppose they waked up to the fact that when one of their straps ran, say, 3000 hours and they replaced it with a new one, they were giving us many more hours with two straps than we were getting with one of the more expensive straps. Whether any other firm would be foolish enough to agree to such a one-sided proposition or not, we doubt. But it still remains a fact that this one firm did.

Here is another thought about



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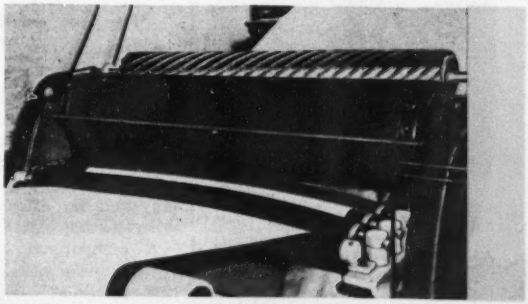
JAMES HUNTER SQUEEZE ROLLS

James Hunter Machine Co., North Adams, Mass., wanted a brush to stand up when removing acidified flock from their Carbonizer Squeeze Rolls. Jenkins' engineers designed a METLKOR brush with exposed metal parts of stainless steel and bristle of acid-resistant Nylon.

Mr. Frank B. Morrill, Chief Engineer, James Hunter Machine Co., says: *". . . we have been using Jenkins' brushes for flock removal on our Squeeze Rolls for about three years . . . They do a much better cleaning job than the brush previously used, and stand up several times longer . . ."*

This top textile machinery manufacturer has time-tested and proven the efficiency of patented Jenkins' METLKOR—the cylinder brush that lasts *many times longer* and *can be rebristled!* It can cut your brush replacement costs and do a better job, too.

If you have any standard or special brush problem, call or write: M. W. Jenkins' Sons Inc., Cedar Grove, Essex County, New Jersey.



A JAMES HUNTER CARBONIZER SQUEEZE ROLL WITH A JENKINS' METLKOR NYLON BRUSH

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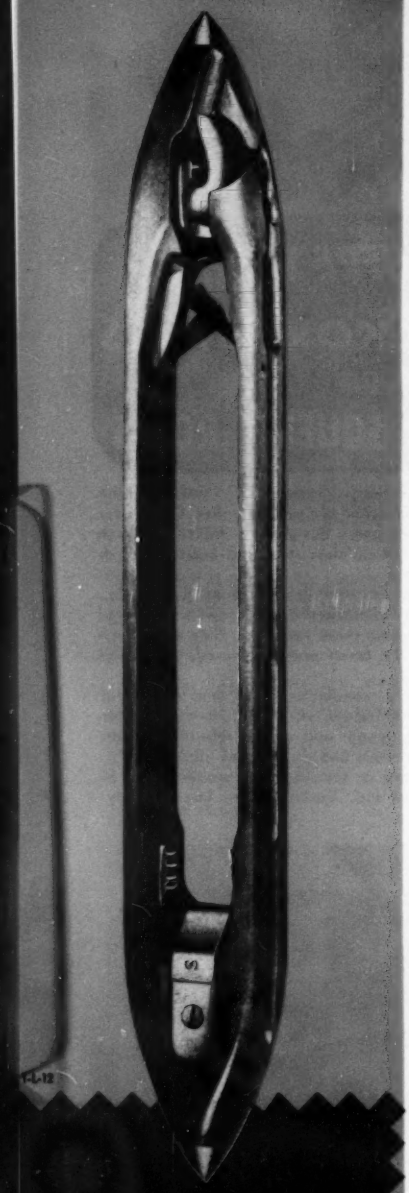


World Famous "Quality" SOUTHERN SHUTTLES possess Eye, Tip and Grip Features which give them longer, more productive shuttle life.

check straps. When OLD-TIMER ran a section, he moved his check straps about one inch on about 20 looms each week. That is, he loosened up the check strap holder and moved the strap either forward or backward about one inch or just far enough so the picker stick would not hit the check strap in the same place it had been hitting. You know it is the forward stroke of the picker stick which causes most of the wear in a check strap. We used about one half as many straps as the other section men. But when we got to be overseer of weaving we never did find a way to get *all* section men to use that system.

What we are trying to show you, Jim, is that if you know what service your machinery supplies are giving and what it costs per machine hour, you are in position to pay the highest price for any item, provided you get the machine hours to justify the price. The longer you can get any supply to last will usually offset the extra price in the saving of labor and machine stoppage.

(*In the next issue* OLD-TIMER *will cite an example of figuring picker stick costs.*)

Figure Evenness by Machine or Planimeter?

(*Continued from page* 81)

evaluation show a significant difference between the two laboratories when testing sliver; a difference by the percentage method only is found when testing roving; and no difference is found when testing yarn.

A comparison of results obtained by the planimeter and percentage techniques shows that the significant differences between the fiber and spinning laboratory test results agreed in 5 of the 6 conditions investigated. In this instance the percentage technique was favored because the test results could be determined quickly and with the least effort.

Tape Condensers— Operation, Maintenance

(*Continued from page* 84)

traction and can be run tighter, giving more bite at the dividing point between the dividing rolls. A cleaner, sharper separation of the long fibers is obtained with less of that feathery edge on each ribbon of sliver as is the case with narrow tapes.

Attempting to run long-fibered blends on tapes .510" or less in width is not practical. The breakage is too high from long fibers locking two slivers together.

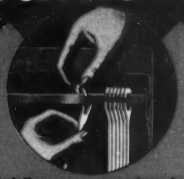
The first consideration when buying new tapes should be the efficiency or quality of service and not entirely the potential life of the leather. After considering the ragged dividing of the web by old tapes that are thin and narrow, resulting in increased breakage on the card and spinning frame and also a sharp increase in weight variation, keeping a set of tapes in service too long is a costly practice.

For optimum results tapes should be kept fairly taut, and even with the best leather there will be a few tapes slacker than average. Slack individual tapes make light ends; the feathery edges of their webs cause them to wind around the dividing rolls; end breakage increases. Therefore, these tapes should be cut and shortened to produce the same tension as the general average.

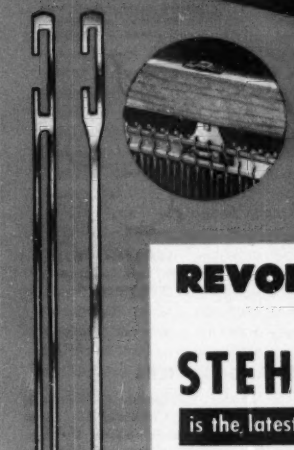
To prevent tape damage at vacuum stripping time due to the web or strippings rolling up under the comb and then entering the dividing rolls and badly stretching the tapes, use a plywood board 40" x 66" for a 60-inch wide card. When running the stock out of a card for any reason, drop this board down between the comb barrel and the dividing rolls and effectively guard against damage to the tapes. Jamming and stretching of a few tapes throws the entire set out of balance.

(*Part 2 of Mr. Croft's article will deal with rubbing, preventing tapes and aprons from drying out, the broken end problem, etc.*)

Stehedco Southern



Adding or removing heddles is simple — you merely twist the open section.



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You can get STEHEDCO DRAWTEX frames in single and double bar construction. It gives you a continuous slide for the heddles —without interruption of any kind. The conventional supporting hook for the heddle rod is completely eliminated and special rod hook allows the heddle to slide the full length of the frame.

With STEHEDCO DRAWTEX all heddles are free to float and find their proper position as they spread over the width of the cloth being woven.

Heddle rods are much wider, giving much more strength to the frame. They eliminate sagging in harness. Frame ends are completely flush to give maximum frame length use in any loom.

Consult our staff of Field Engineers for full information on this revolutionary development in modern drawing-in harness equipment.

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STEHEDCO DRAWTEX heddles are made of selected tempered steel to give extreme flexibility with maximum wearing qualities.

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NASHUA, NEW HAMPSHIRE

Representatives:

HENRY H. HERSEY, Norwood Place, Greenville, S. C.

HARRIS MFG. COMPANY, 443 Stonewall St., S. W., P. O. Box 1982, Atlanta, Ga.

H. W. CURTIS, 735 W. Crescent Ave., Allendale, N. J.

THE CHARLOTTE SUPPLY CO., Charlotte, N. C.

Export Agents: VANDERBURGH & CO., INC., 25 Beaver Street, New York 4, N. Y.

HARRIS & UNDERHILL, 446 Statler Building, Boston, Mass.

TANNER TEXTILE CHEMICALS

VERSENE FE 3 Specific*

Most powerful iron complexing agent known in normal pH range.

VERSENE*

Most efficient general complexing agent. Softens water completely and permanently without precipitation.

• • THE Versenes

VERSENE T*

Prevents and removes iron deposits from fabric treated with concentrated caustic.

VERSENE FE 3*

Prevents hard water deposits and iron stains.

VERSENES AND TEXTILES

The Chas. S. Tanner Company, as Southern Agents for the Bersworth Chemical Co., now offers you the Versenes in the South. By controlling metallic contamination, these most modern of chemicals give *cleaner* fibres, *softer* woolens and visibly *whiter* cottons. Among other things, they completely soften hardest water without precipitation.

OTHER TANNER CHEMICALS

Suedex Series.
These Resin Emulsions are semi permanent and easy to use in process finishing. Color yield is excellent and they give varying degrees of stiffness, fullness and finish on broadcloth and cottons of 80 squares.

Crystal Film.
These are Co-polymer type resins. They give beautiful transparent finishes. There are four types. Similar to Suedex in function but are used where even finer finishes are desired.

Ether Gum Binder.
For all types of clay or talc fillers for cotton goods. Non-yellowing properties.

Tantex A and Tantex B.
The *Durable* Type Water Repellent. Cottons treated the single bath Tantex way will retain their repellency for 3 washings or 3 dry cleanings. It will pay to investigate.

CST Gum No. 5.
A weighter type material. Used as a finish but imparts much weight to the fabric.

Tanamine Series of Softeners.
This is a complete line of cationic, anionic and non-ionic softeners.

*T.M. Bersworth Chemical Co.

CHAS. S. TANNER CO. *manufacturing chemists*

1815 LIBERTY LIFE BLDG. CHARLOTTE, NORTH CAROLINA

Home Office: Providence, Rhode Island

Liquid Meter for Wet Processing

(Continued from page 75)

near the washers or other processing tanks and automatically shuts off the flow after a pre-determined quantity of liquid has been delivered.

Typical applications of this meter, according to the manufacturer, are: Accurate measurement of soap solutions to washers and fulling mills in woolen and worsted mills; accurate measurement of water to starch cooking kettles; and measurement of warm, hot or cold water into all kinds of batching and processing operations.

Large numerals on the face of the meter record the flow and provide a visual check when the delivery is finished. A small shuttered totalizer also on the face of the register keeps cumulative totals, from which daily, weekly, or monthly figures can be recorded.

Flow can be stopped instantly at any time by pressing the emergency stop button on the register. This does not affect the meter reading or Auto-Stop setting. The delivery can be continued to its conclusion by re-opening the valve, or the register can be reset for a new quantity before continuing. This does not affect totalizer recordings.

The register is easy to keep clean, weatherproof, and dust-proof; furnished in 1", 1½" and 2" sizes; capacities from 30 to 100 gallons per minute, depending on size of meter and maximum temperature for which it is selected.

Neptune Meter Co., 50 West 50th St., New York 20, N. Y.

For additional data, request item G-103, using business reply card on page 214.

Bobbin Control for Loom Batteries

The UGO Bobbin Control recently placed on the market fits onto the loom battery and holds filling bobbins in such a way that transfers are made without filling breaks, according to the manufacturer.

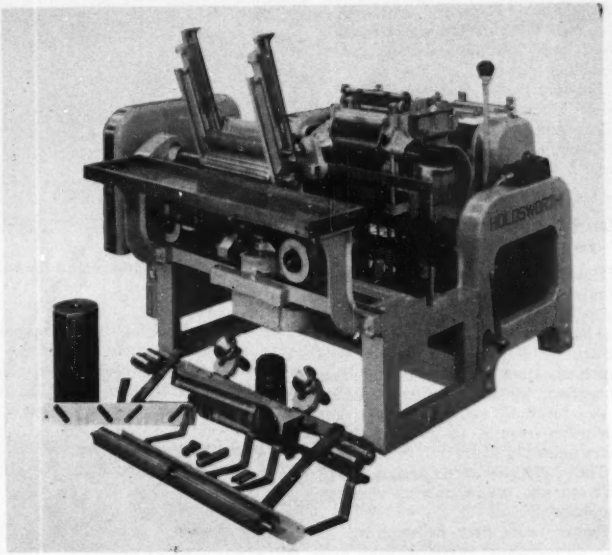
Easily applied to the battery without drilling, the device is said to hold the bobbin high-up in the disc and in perfect alignment so that transferring is assured and shuttle is threaded properly. Advantages claimed: Shuttles, bobbins, and shuttle grips wear longer; mispicks, thin places, and breakouts eliminated.

Royal Textrol Company, Drawer I, Branwood Station, Greenville, S. C.

For additional data, request item G-111, using business reply card on page 214.

NEW Equipment AND MATERIALS

Other items are described on pages 73 and 75



New Balling Head for Holdsworth Gill Reducer

Holdsworth Gill Screw Co. has announced production of its standard gill reducer with a new balling head.

Head disassembled in photo shows the few parts necessary to change the machine from single to double delivery. This balling head will be available in either single or double head models.

Atkinson, Haserick & Co., Box 2125, Boston 6, Mass., sales agents.

For additional data, request item G-102, using business reply card on page 214.

New Loom Reed Has Magnesium Ribs

A loom reed now on the market is reported to have the lightness and resiliency of pitchband construction. Yet, because the ribs are magnesium or aluminum, some of the stiffness and strength of an all-metal reed is also present, it is claimed.

The special "RigidReed" construction means that the ends of the dents are held more securely by strong aluminum or magnesium ribs, are more flexible, and always remain in the same plane, according to the manufacturer.

End bars riveted in place between each pair of ribs do not require reed caps, the announcement stated. This arrangement allows tension to be

given the selvage dents by peening the end bars.

The dents can open and spring back more readily since they do not tend to imbed in the rib. No tubing, backstrips, or inside metal strips are required for additional strength. The reeds may be soldered at the ends or full length. They are available in standard ½" and ⅝" rib sizes only. Dents may be either carbon or stainless steel.

Emmons Loom Harness Co., Lawrence, Mass.

For additional data, request item G-104, using business reply card on page 214.

Enclosed Power Unit for Baling Presses

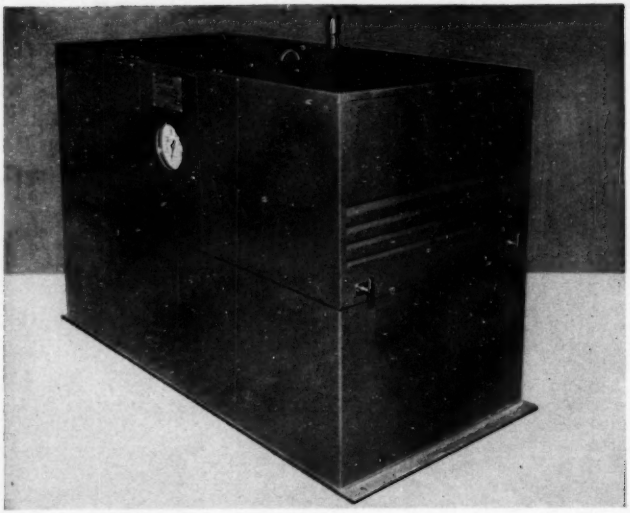
Now available is a rotary type pump unit fully enclosed and specifically designed for operation of textile baling presses. Known as the "SD" Hydraulic Power Unit, it provides much smoother power for baling press operation, the manufacturer claims; it is vibration-free, and its speedier operation results in production of more bales per hour.

The fully enclosed design keeps dirt out and oil in, solving cleaning problems.

Power units may be supplied in any performance speed desired, and they can be engineered to meet the customer's particular requirements. A second control valve can be furnished for operation of two baling presses from the same pump unit.

Maintenance is said to be negligible. Pump is self-adjusting to compensate for wear which is held to a minimum since the fluid it pumps is also the lubricating medium. Cleaning of filters may be easily accomplished.

Standard Designers, Inc., 12 Brevard Road, Asheville, N. C. (G-501).



Enclosed power unit for baling presses (Standard Designers).

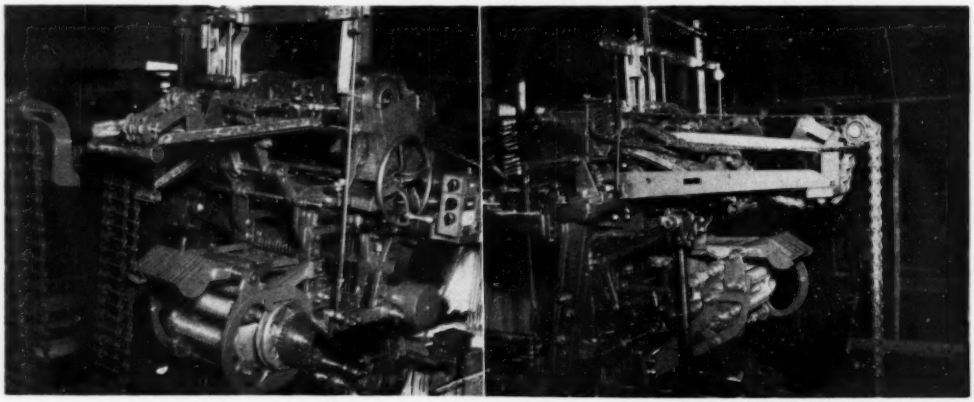
Multiple Cylinder Dobby Attachment

A multiple cylinder dobby attachment that greatly increases the capacity of dobby or Knowles head motions, has recently been patented in the United States by its inventor, Ivar O. Moberg, of Spray, North Carolina. Patents are also pending in Great Britain and Switzerland.

According to the anouncement, the attachment can be applied to any dobby or Knowles head motion without interfering with the conventional running of these harness motions whenever it is desired to do so. It is merely a matter of ignoring the attachment and using the conventional pattern chain. The attachment does not need to be removed in conventional running of the dobby or head motion.

Although it was developed primarily for production of electric

Multiple cylinder dobby attachment by Moberg. Front view at left; rear view at right.



blankets and sheets without the use of the Jacquard head now being exclusively used for this production, the attachment is said to be equally useful for fancy border blankets, table cloths, fancy cross border towels, bedspreads, fancy curtains, draperies, etc., where several basic weaves, or combination of basic weaves, occur at great intervals.

The attachment consists of a revolving magazine holding six or eight aluminum pattern cylinders. These cylinders are driven by a planetary gear motion and revolve around their own axis as well as moving around intermittently in their orbit when called upon to do so by the box chain of the loom.

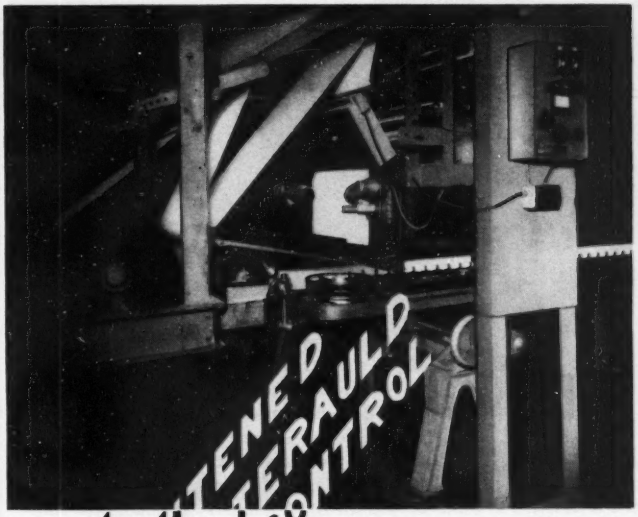
Each pattern cylinder carries its own complete weave, or all the cylinders may be combined to produce a fancy weave within their limit. Thus, for instance, each cylinder will have a maximum filling repeat of eight picks if single index or a maximum filling repeat of sixteen picks if double index. A six-cylinder attachment will have a maximum filling repeat of 48 picks if combined and single indexed. If double indexed the maximum filling repeat will be 96 picks.

The cylinder magazine can be called to move either forward or backward so as to bring either the preceding or succeeding cylinder into operative position. Since all the cylinders revolve in unison the danger of mispicks at the change of weaves is eliminated. The harnesses are operated and controlled by direct peg indication from the cylinders. No pattern chain is used.

When it is considered that an electric blanket requires 3,500 to 4,000 Jacquard cards and electric sheets require 7,500 to 8,000 Jacquard cards, the savings by using the multiple cylinder dobby attachment are apparent. Then too the electric blanket and sheet require a special tie-up of the Jacquard harnesses which can not readily be used for any other patterns. Hence, it becomes a necessity to retie the Jacquard harnesses every time a change from electric blanket or sheet to other Jacquard patterns is required.

With multiple cylinder dobby or head motion attachment, the change from one weave to another is a matter of minutes, it is claimed, and changing the construction of a fabric requires two or three hours only.

The installation cost of either the multiple cylinder dobby or head motion attachment is quickly repaid by



WEFT STRAIGHTENED with WINSOR & JERAULD ELECTRONIC CONTROL

Paramount Printing & Finishing Co., Pawtucket, R. I., in their high speed production methods, insist on straight goods before printing.

Pictured above is one of Paramount's ranges which are complete with W & J "reflected light type" weft straightener package units and tenters with W & J No. 5 clips.

Through continuous development the latest model straightener, J-3, provides unmatched simplicity of control and consistency in operation.

The W & J straightener is adaptable to any existing range handling woven or knitted goods in open width.

For those mills, increasing speeds for greater yardage while emphasizing improvement in quality, the W & J straightener is a must.

(Ref. to W & J Bulletin WS-100)

Winsor & Jerauld
MANUFACTURING COMPANY INC.
1268 EDDY STREET, PROVIDENCE, R. I., U.S.A.
Builders of Fine Cloth Finishing Equipment since 1900

There Is Only One Way . . . . .

It is essential—and always has been—that this Company keep the total confidence of its clientele. Superior products—applied by our practical personnel—combined with a half century of experience—has grown up with our institution. We are Manufacturing Chemists and supply the particular products to fit your conditions—and we have the seasoned men who have the "know how" to apply them. This combination has been found invaluable in the past; it will continue to serve in the future. Our effort is to keep your confidence by deserving it.

The growth and success of this company speaks for itself in upholding the judgement of its founders in placing the attainment of confidence among all with whom we do business as a foundation stone upon which to build.

SLASHING
WEAVE-WELL
PRODUCTS

•

FINISHING
FINISH-RITE
PRODUCTS

•

SHUTTLE
GREASE-RITE
TALLOW

Northol P. C. for use with any make of machine, for setting twist and conditioning yarns

FRANK G. NORTH
INCORPORATED
MANUFACTURING CHEMISTS
ATLANTA, GEORGIA · P.O. Box 123, Sta. A · Phone RAymond 2196
MARIETTA, GEORGIA · P.O. Box 92 · Phone Marietta 1509

NEW Equipment AND MATERIALS

the saving of one single set of Jacquard cards or a change of the tie-up of the Jacquard harnesses.

Ivar O. Moberg, P. O. Box 338, Spray, N. C.

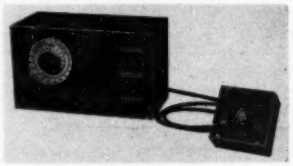
For additional data, request item G-112, using business reply card on page 214.

Continuous Sampling Monitor Developed

To aid quality control engineers in continuous sampling, a "continuous sampling monitor" has been developed. It is an electrical device which automatically keeps track of the sampling procedure.

In contrast to the General Electric quality control indicator, made available last year for application where 100 per cent inspection is desired, the new instrument is for use where the sampling method is preferred.

In operation, a given number of consecutive acceptable units is established by 100 per cent inspection. This "clearance" number, and the percentage number to be used for sampling, are determined by the desired average outgoing quality level, selected from a set of curves supplied with the equipment.



Continuous sampling monitor (General Electric).

When the clearance number is reached, sampling begins. The prescribed percentage of units is inspected until an unacceptable unit is found. This defective unit is replaced by a good unit, and the 100 per cent inspection is followed again until the clearance is reached, at which time sampling resumes. This procedure continues; each time a reject is found, it is replaced with a good unit, and 100 per cent inspection is followed until the clearance number is re-established.

To operate the monitor, the inspector pushes one of the two push buttons—labeled "accept" and "re-

ject"—after each inspection. He then follows the directions shown by one of two indicating lights; he inspects every unit while the red light is on, and samples while the white light is on.

General Electric Co., Special Products Division, Schenectady, N. Y.

For additional data, request item G-113, using business reply card on page 214.

Army Ski Sock Machine

Displayed at the Knitting Show

A completely automatic 5" 60-needle, 10 gauge knitting machine has been developed to make a heavy weight sock with terry stitch throughout, meeting army requirements for a sock that will keep feet dry and comfortable under extreme conditions of either wet or dry cold.

Incorporated in the sock are selvage edge, special heel gore extending into the instep, and added gusset ahead of the toe for greater foot comfort. (For photo of the sock and other details, see the caption story on page 81 of the June issue of TI.)

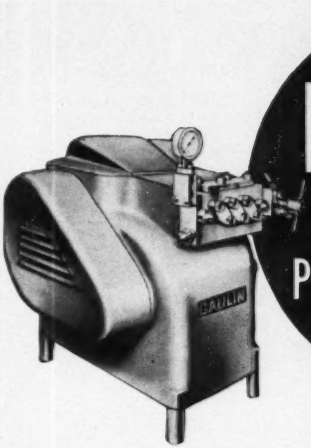
Scott & Williams, Inc., Laconia, N. H.

For additional data, request item G-107, using business reply card on page 214.

Pocket-Size pH Meter

A pocket-size pH meter and companion probe unit now on the market permits instant, on-the-spot pH determinations. Completely self-contained with batteries, in a Bakelite case 3" x 5⅞" x 2½", the instrument is furnished, camera fashion, in an ever-ready case with novel plastic tubes of buffer and KCl solutions. Total weight is 3 lb. Case fitted with hand-and-shoulder strap. Supports and beakers are eliminated by combining the calomel and glass electrodes with the sample holder, in a

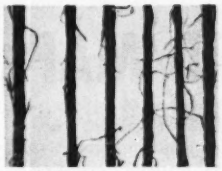
pH meter (Analytical Measurements).



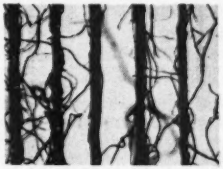
INSPECT the Photomicrographs

They Show That

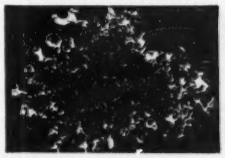
GAULIN HOMOGENIZERS



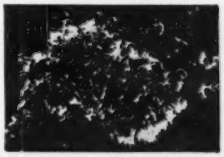
Longitudinal view of 40s yarn coated with homogenized size. Notice the exceptional degree of fibre lay.



Longitudinal view of 40s yarn with boiled size. Note the irregular degree of fibre lay.



Cross section of 28s with homogenized size. Size coating and penetration is uniform throughout.



Cross section of 28s with boiled size. Note the heavy and thin size deposits.

...Improve Size Quality Assuring Better Yarn Penetration and Stronger Yarn ...Keep Production Up

Take a look at the illustrations at the left, they conclusively prove that Gaulin Size Homogenizers enable you to prepare a better size, improve yarn quality and step up loom production.

Records in mills everywhere provide additional proof that Gaulin Homogenizers reduce the amount of starch and softeners required, minimize shedding in slashers and looms, reduce cooking time, permit higher slasher feeds and increase loom efficiency . . . all adding up to greater savings and more production.

Get the full facts, today. See for yourself how you can profit with Gaulin Size Homogenizers.

Gaulin TRADE MARK

Manton Gaulin Manufacturing Company, Inc.

51 GARDEN STREET, EVERETT 49, MASS.

it's truly "GOOD OLD"

Original floor of Northern Hard Maple, New Bedford Knitting Co., New Bedford, Mass.

NORTHERN HARD MAPLE

the finest floor that grows

Strictly in the tradition of America's textile crafts, this New England mill floor was laid years ago with resilient, enduring Northern Hard Maple. Its builders turned, almost instinctively, to this splendid product of our native forests, secure in the knowledge gained through the experience of generations of textile manufacturers. They knew that good Northern Hard Maple is preferred for sound reasons. Its close grain structure offers no crevices; its pronounced stability of dimension makes for tight joints—hence little chance for dirt to lodge. Simple sweeping routine keeps it clean and attractive. It doesn't splinter. Its resilience resists dents. It's bright, light-reflecting, cheerful. It "feels good" under foot—workers prefer it. It *lasts* and *lasts* . . . and, come refinishing-time, "there's always a new floor underneath." If you're planning new or expanded mill facilities, be sure to specify MFMA-graded Northern Hard Maple. You know it's right in every respect. And it's available. And it's economical.

See Sweet's
Architectural, 13i/MA, for specifications and full data.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
Suite 591, Pure Oil Bldg., 35 E. Wacker Drive
CHICAGO 1, ILLINOIS

FLOOR WITH NORTHERN HARD MAPLE BEECH AND BIRCH

NEW Equipment AND MATERIALS

single polyethylene probe unit. Sealed from 2 to 12 pH for easy reading. Simple adjustment gives readings from 0 to 14. Accuracy of 0.1 pH is obtainable, according to the manufacturer.

Analytical Measurements, Inc., 585 Main St., Chatham, N. J. (G-302).

Booklet on Color

"Color Is How You Light It" is the title of a booklet recently published to enable designers, etc., to predict how a color will look under any one of the eight colors of white light now available. It is an improved and expanded version of the original introduce dby Sylvania Electric Products Inc., two years ago. Copies of the booklet, number FL-420, may be secured from the Advertising Department of Sylvania Electric Products Inc., 87 Union St., Salem, Mass., at 50c per copy.

Compound Meter Manifold Unit

To answer the problem of proper meter maintenance without costly shut-downs or extra-hour work, a new compound meter manifold unit has been introduced which consists of two single register compound meters in combination with four lubricated plug valves and two 8-inch reducing manifolds so arranged that for maintenance one side may be shut down at a time without complete interruption of service. By isolating one side, a meter can be removed and exchanged for one serviced and calibrated in the shop, while flow continues through the other meter passage. It is also possible to check-test a meter in place without a break in service. 1600 gpm flow capacity.

Rockwell Mfg. Co., 400 North Lexington Ave., Pittsburgh 8, Pa. (G-307).

Sideloader Fork Truck Works in Six-Foot Aisle

Complete fork truck operation in six-foot aisles is now possible with the development of a device which permits a fork truck parked longitudinally in the aisle to stack to either side without having to turn at right angles to the aisle. Instead of the truck making the 90-degree turn,

the forks do it while the truck remains stationary.

Automatic Transportation Co., 149 West 87th St., Chicago, Ill. (G-308).

"Universal" Conditioning Cabinet

Displayed at the Knitting Show

A cabinet designed for all-purpose testing is complete with humidification, dehumidification, heat, refrigeration controls, and is totally insulated. Humidities may be varied without changing the temperature. Temperature may be raised and lowered while humidity retains its setting. The cabinet has access ports so that tests may be conducted without opening the door, and the unit may be used for tests without interfering with temperature or humidity in the laboratory. Capacity of the testing chamber is approximately twelve cubic feet.

Air - Perme - Ator Manufacturing Co., 300-2 Preakness Ave., Paterson, N. J. (G-502).

Three-Color Striper Spring Needle Machine

Displayed at the Knitting Show

A new type of color drum and pattern changing mechanism has been incorporated in Tompkins Bros. Company's spring needle knitting machine.

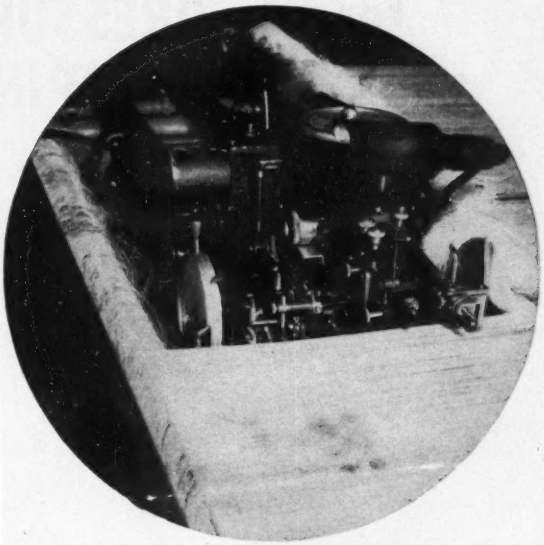
The pattern changer throws jack pressers in and out of action, converting from pattern work to plain jersey, according to prearranged setting of the timing chain. Inserts, slipped into a simple color drum, determine color selection.

Tompkins Bros. Company, Syracuse, N. Y.

For additional data, request item G-108, using business reply card on page 214.

Smoke Density Indicator Alarm and Recorder

The GP Model "A" Indicating and Recording Smoke Alarm is a visual and audible smoke alarm which makes a continuous record of the density of the smoke present in the breeching for any period of time. The record of the density of the gases is recorded on a 12" circular chart. The pointer is incorporated in the recorder which gives indication of the



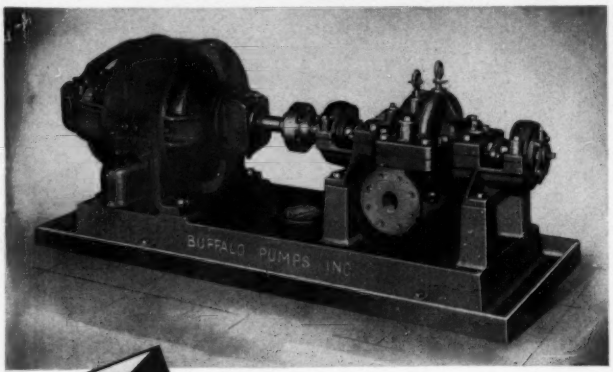
TITAN automatic warp tying machine assures:

INCREASED PRODUCTION	Ties leased and/or unleased warp up to 108" wide in one operation.
HIGHER SPEEDS	Speeds tying of all types of warps—cotton, wool, worsted, rayon, silk, etc.
REDUCED BREAKAGE	End breakage is reduced and loom stoppage is minimized.
IMPROVED WARPS	It is dust free and clean.
VERSATILITY	Can be used for either stationary or portable tying or both.
ECONOMY	Quick changes by operator at reduced costs.
SIMPLE OPERATION	No special skill required by the operator.
VISIBLE TYING	Knots in sight at all times.
MILL PROVEN	Operating in many mills in U. S. and all six continents. In use for over 18 years.
PAYS FOR ITSELF	Increases trouble-free tying.

Send for descriptive literature and users' opinions.

EDDA INTERNATIONAL CORP.
468 FOURTH AVE., NEW YORK 16, N. Y. CALHOUN TOWERS, GREENVILLE, S. C.
U. S. General Sales Agents

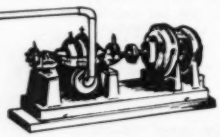
FOR HIGH PRESSURE
CLEAR WATER PUMPING



"Buffalo" 2-STAGE AND 4-STAGE CLASS "RR" PUMPS

"Buffalo" Class "RR" Pumps are adequately built for the severe service of handling hot or chilled clear water at high heads, with exceptionally high efficiency. Practically no maintenance problem—modest power requirements—rugged endurance on the job—are what you get in "RR" Pumps. You will find all engineering details in BULLETIN 980-B. Write for your copy.

- Capacities Up to 900 gpm.
- For Heads Up to 1500'
- For Clear Water, Any Temperature



"Buffalo" PUMPS
BUFFALO PUMPS INC.
175 MORTIMER ST. BUFFALO, NEW YORK
Canada Pumps Ltd., Kitchener, Ont.
Branch Offices in All Principal Cities
A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

NEW Equipment AND MATERIALS

visual density of exit gases at all times. When the maximum allowable density has been exceeded, the red light will light and the bell will ring continuously until the operator has corrected the condition.

General Power Plant Corp., 381 Fourth Ave., New York 16, N. Y. (G-303).

Flow Signal Transmitter

A pneumatically operated flow differential measuring unit transmits proportional signals to remote recording or indicating instruments or automatic control units. It is used for measuring flow differentials of liquids, gases or vapors, or for measuring static pressure or liquid level. Interchangeable measuring elements cover a continuous range of pressure differential from 5.5 inches water column to 100 psi, at static pressures up to 1500 psig. Accuracy is said to be within one per cent of full scale reading.

Hagan Corporation, Hagan Building, Pittsburgh 22, Pa. (G-304).

New Model Large Diameter Circular Knitting Machine

Displayed at the Knitting Show

Named "Multiplex," Style RM-RB, machine may make 16-inch, 14-cut goods. It is a 16-feed, revolving cylinder, dogless machine for 1x1 plain rib or 2x2 rib underwear. The "Multiplex" has a magnetic clutch, job control, horizontal space saving hand wheel, needle detector, and inserted wall cylinder and dial.

H. Brinton Co., Kensington Avenue and M St., Philadelphia 24, Pa. (G-503).

Hook-On Power Factor Meter

A new hook-on type power factor meter permits direct measurement of power factor without cutting conductors or interrupting electrical service. Designated the Type AK-3 power factor meter, it may be used on any balanced three-phase circuit. It gives direct power factor readings in circuits with voltages ranging from 100 to 600 volts and currents from 15 to

Hook-on power factor meter (General Electric).

600 amperes. Accurate to within 0.05 power factor. Frequency range of 50 to 90 cycles; effective scale length of 13.5 inches.

General Electric Co., Meter and Instrument Division, Schenectady 5, N. Y. (G-306).

Type TEAM Circular Rib Knitter

Displayed at the Knitting Show

A circular rib machine for making outerwear may be used to make patterns which may be altered quickly by changing cams. Plain rib fabric can be made also. Single-butt needles and double-butt needles are used in conjunction with the cams for making box patterns and variations of box patterns. The machine knits every other feed on fancy goods. A calibrated dial and single control to raise or lower the dial permits quick change of stitch. Knitting 30 stitches per inch on plain fabric, a 20-inch 30-feed machine produces 50 yards of fabric per hour.

Edmos Products Company, 13 Christopher Ave., Brooklyn 12, N. Y. (G-505).

Precision Counter for Conveyor Lines

A new package counter records every unit regardless of how tightly the packages move along the conveyor line, the manufacturer claims. The device fits between sections of gravity, belt, or live roller conveyors. A short, powered belt carries the package forward to a barrier. Contact with the barrier causes an air cylinder to raise the front of the package. The belt then propels the package over the barrier and deposits it on the live roller discharge unit while the numbering machine registers the count. The barrier then re-

1. Cab-operated monorail hoists serve single bays or entire plants—from yards or unloading areas—without rehandling.

2. They operate "thru-the-air"—conserving floor space. Never interfere with production on the floor.

3. A wide range of trolley travel and hoisting speeds are available for adapting these machines to production requirements.

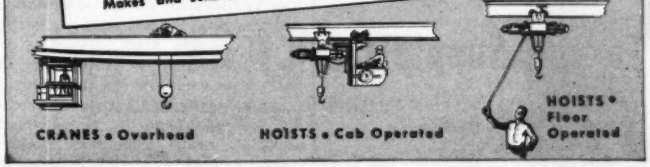
4. Operator always in the most favorable position for accurate spotting and stacking.

Shepard Niles specialists will study your operations—show you where and how you can speed up material handling with cab-operated monorail hoist service, and how you can save time and money while doing it. Write for additional information.

Shepard Niles

CRANE & HOIST CORPORATION

Makes and sells all three lifting tools for airborne shop loads



465 SCHUYLER AVE. • MONTOUR FALLS, N. Y.

Insure Against Rust and Snagging

with EXCEL No. 600 Slatted Conditioning Trucks

Brass screws and cadmium plated bolts eliminate any possibility of rust. Because they are fastened from the outside they also insure against snagging. The Excel No. 600 is constructed of highly polished cypress or maple and finished with two coats of heat and acid resistant Tropelite to form a durable snag-proof surface. Slatted sides, ends and bottom permit perfect saturation and drainage.

Casters are securely bolted to bottom of truck.

Representatives:

Mr. W. N. Eurey.....Lincolnton, N. C
Mr. Paul Eurey.....Lincolnton, N. C.
Industrial Suppliers, Inc.
La Grange, Ga
Fall River Mill Supply Co.
Fall River, Mass
Mr. Theodore Huston
2601 N. Broad St., Philadelphia, Pa

EXCEL

Textile Supply Co.

"Excel Trucks Excel"

LINCOLNTON, NORTH CAROLINA

NEW Equipment AND MATERIALS

sets itself to stop the next package. Capacity, approximately 40 packages per minute. Standard units designed for use with conveyors 16¼" between rails. Other widths can be supplied as desired.

Alvey Conveyor Mfg. Co., St. Louis, Mo. (G-506).

New Books of Interest to Textile Personnel

An Introduction to Textile Finishing by J. T. Marsh, British author of several books on textile chemistry including the recently published companion volume "An Introduction to Textile Bleaching," deals primarily with the chemical aspects of textile finishing, with particular emphasis on recent discoveries in the field; also, some of the older commercial processes are re-evaluated in light of these developments.

According to the author, two criteria were used in choosing the finishes to be covered in his book: (1) commercial importance and (2) scientific and technical interest. The subject matter is said to have been based on the experiences of the writer during his twenty years of service as a research chemist in the textile industry, and from a careful study of the literature on the subject.

Finishing machines, creping, dispersion processes, formaldehyde, permanent set, milling, unshrinkable finish for wool, anti-shrink cotton, starch and starching, weighting, delustering, cellulose derivatives, application of synthetic resins (both external and internal), rubber, waterproofing, mothproofing, mildewproofing, and fireproofing are subjects treated. (John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y.; price, $5.50).

A Handbook of Weaves by G. H. Oelsner as translated and revised by Samuel S. Dale was recently published by Dover Publications, Inc., 1780 Broadway, New York 19, N. Y. (price, $7.50). This unabridged edition includes all of the information and the 1875 illustrations contained in the original work, according to the publisher. It is a dictionary of weaves designed for the professional designer, stylist, and weaver, covering the field from the simple draft and plain weave to the more complicated fancy weaves. Also included is a supplement by Mr. Dale on

The **EMBLEM OF QUALITY METAL SHIELDS**

For Spools and Bobbins

Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

Insist on Anderson when you order metal shields.

TEXTILE SHIELD CO., INC.

J. N. ANDERSON, Treasurer

LAWRENCE, MASS., U. S. A.

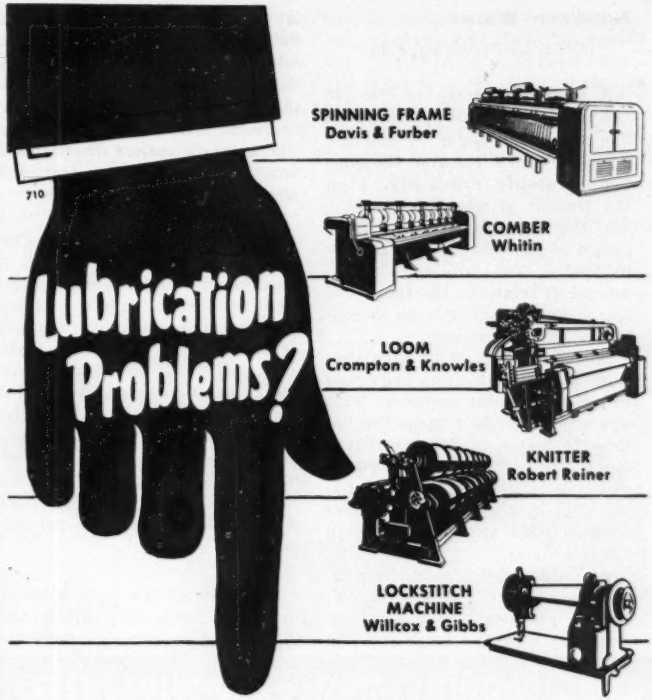
"straight line" analysis of weaves, patterns, and fabrics.

Artificial Fibres by R. W. Moncrieff gives the historical and developmental background of regenerated cellulosic and alginic fibers, regenerated protein fibers, and synthetic fibers, as well as the important manufacturing processes, chemical and physical properties, and uses of the individual fibers treated. The 313-page book, published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y. (price, $4.50), contains considerable information on dyeing, crease-resistant finishing, and curing; also included is a chapter on tested and approved methods of identification and estimation of fibers.

Rayon Fabric Construction is the title of a new 180-page book by A. T. C. Robinson, head of the Textile Department, Halifax College of Technology (England), and for many years associated with the experimental weaving department of one of the large British rayon companies. It is a revised collection of articles by Mr. Robinson that have appeared during the past two years in "Skinner's Silk & Rayon Record." Fabrics ranging in design from plain weave to figured furnishing fabrics are considered. Profusely illustrated. Published by Thomas Skinner & Co. (Publishers) Ltd., 330 Gresham House, London E. C. 2, England.

Costs, Budgeting, & Economics of Industrial Research is a 261-page book now available containing the abridged and edited proceedings of the first annual Conference of Industrial Research held at Columbia University in June, 1950. Edited by David B. Hertz, assistant professor of Industrial Engineering at Columbia and conference director, with the assistance of Albert H. Rubenstein, research associate, the book should prove useful to administrators and students in the field of industrial research. (King's Crown Press, 2960 Broadway, New York 27, N. Y.; price, $4.50).

A handbook for weaving supervisors and their assistants, entitled *How to Handle Power Looms*, has been written by Ezekiel David and published in India. Loom fixing, warp preparation, setting and adjustment of Keighly dobbies, setting and adjustment of Jacquards, hints on weaving nylon and rayon fabrics, humidification and air conditioning are typical of the subjects discussed. Available from Lakhani Book Depot, Ramchandra Building, Girgaum, Bombay 4, India.



not on these machines!

...they're all BIJUR equipped

Each maker of these machines had your best interest in mind when he built-in a Bijur lubricating system. Human carelessness and forgetfulness are eliminated by machines having built-in Bijur lubricating systems. These machines will never be shut down because they lack continous, proper lubrication. Make certain the machine you buy is furnished with a Bijur lubricating system.

Write for Bulletin 6A

BIJUR

LUBRICATING CORPORATION

Rochelle Park • New Jersey

Ion-Free Water

(*Continued from page* 90)

A unique property of PM - 90 size is its sensitivity to changes in the percentage water in solution. A small change will alter the solution's viscosity drastically. Even the amount of water evaporating into the atmosphere over a short period of time will affect viscosity markedly. Yet, viscosity is elemental. It relates to the amount of size each end will pick up in contact with the dip roller.

So, viscosity must be kept constant and uniform from beginning to end of the sizing operation. With viscosity dependent upon the nature of water, it follows that a quality controlled high purity water is indispensible to good sizing. PM - 90 doesn't form a perfect solution with anything less than ion free water.

At Kahn and Feldman, size solution is kept at 120 sec. Saybolt A S E viscosity. Demineralized water is used for batch makeup and is also added at the size circulator automatically to maintain the desired viscosity level. Fresh solution is repeatedly pumped through size troughs. Air conditioning of the sizing area is not neglected either because of its influence on the rate of size evaporation. Sizing is carried out at 84 F and 50% RH.

Competes With Distillation. Cost of the resin treated effluent is considerably less than comparable distilled water. Unlike distilled water, demineralization requires no heat, steam, or cooling, and uses merely 7 watts of electricity. This is so because demineralization removes impurities from the water rather than water from its impurities. 100 ppm water may be treated for about 7 cents per 1000 gallons whereas distilled water of like purity runs about 5 cents per gallon.

Filt-R-Stil. Since installation of the ion exchange unit at Kahn and Feldman, American Cyanamid has retired from the field. This isn't any indication of industrial apathy toward demineralization. As a matter of fact, this trend in water conditioning has gone beyond pharmaceutical, food, and chemical applications and has reached the area of stream polution control and boiler feed.

Johns-Manville is currently processing 550 gallons a minute for their boiler feed, obtaining near zero hardness in silica content.

Preparation and Bleaching of Cotton Piece Goods

(*Continued from page* 103)

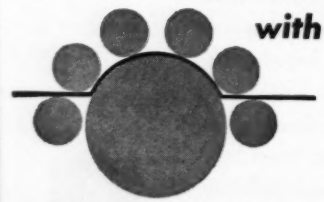
Question of Salt with Enzymes. The use of common salt in conjunction with enzyme solutions is a rather arbitrary subject. Some plants follow the practice of using salt, particularly in the desizing of heavy duck fabrics, etc., and have residual size analysis figures available to substantiate their contention that the use of salt is justified. On the other hand, as many other plants use no salt in enzyme desizing and feel that they don't actually miss it. Apparently, each mill works this out to its own satisfaction.

Caustic Soda Desize

Desizing with dilute caustic soda solutions is a common practice at plants having available for this purpose a supply of dilute caustic soda solution reclaimed from their mercerizer wash waters. When the dilute caustic solution method of desizing is used, the application of the desizing liquor, in this case caustic soda solution having a strength of 1½-2° Twaddle (.65-.87% caustic soda), is applied to the cloth in the same manner and with the same equipment as used in the enzyme method except that no heat is applied to the alkaline liquor. The operation takes place at room temperature.

The goods must be kept moist during the steeping lay time of 6-8 hours to prevent the formation of oxycellulose in dried out areas. This type of desizing is particularly effective in aiding in the removal of the natural cotton wax and

Booth
Originators of STRIP-O-MATIC *
CARD CLOTHING NEWS AND VIEWS
Nylon Spinner Enjoys Runs to 9 Months with STRIP-O-MATIC*



The Wister Spinning Company, manufacturers of fine nylon yarns, had to strip every 2 to 3 weeks with conventional clothing on an 8-hour shift; with 2-shift operation weekly or oftener. Since they have clothed complete sets including cylinders and workers with Strip-O-Matic, they have increased the time between stripping to as much as 9 months. The carders now anticipate being able to run almost indefinitely without stripping. The only down time experienced is for grinding (about every 9 months, only half as frequently as with conventional wire). There is considerably less fibre breaking, and practically no stock loss with Strip-O-Matic.

Research and development is continuously improving Strip-O-Matic for carding all types of fibre including wools, blends, and synthetics. If you have tried only the first Strip-O-Matic manufactured you owe it to yourself to try today's new and greatly improved type. A Benjamin Booth representative will be glad to discuss your specific requirements without cost or obligation.

The photograph shows Strip-O-Matic following a 9 months' operation. There isn't any accumulation of stock.

E A Seyboldt Jr
President

* Patented ®

BENJAMIN BOOTH COMPANY, ALLEGHENY & JANNEY STS., PHILA., PA. Booth

fatty components of the warp sizing.

Brown Sour Desize

Desizing by the acid or "brown sour" method may be carried out in the quench box of the singer as outlined in the two previous methods, or it may be done by the rope form method in the bleach house proper.

When desizing by the acid method at the singer quench box, a dilute (½%) solution of either sulphuric or muriatic acid is used and is usually applied at room temperature or slightly higher. During the subsequent steeping period, the goods must be kept moist because any drying of the cloth would concentrate the strength of the acid, therein, and cause tendering.

Brown Sour on Heavy Goods. A more common way of applying the brown sour process is used on wide sheetings and similar heavy fabrics. In this method the cloth passes from the singer or unrolling scray, in the rope form, through a tight strand washer and squeezer, up over reels, down into an acid pit, under submerged rollers or bars, up through a squeezer, over reels, and into either a tub (a large pit) or a J-box.

The J-box is more often used, and a box of sufficient size to allow a lay steeping period of 30 minutes or more is large enough. In this brown sour method stronger acid solutions are used, even as strong as 2½-3%, and they are applied at room temperature.

Either sulphuric or muriatic acid may be used, but sulphuric finds the most use because it is cheaper. Some plants compromise and use sulphuric "spiked" with some muriatic. Muriatic acid is particularly valuable in removing metallic compounds from the grey cloth.

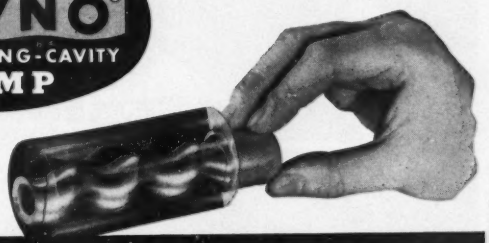
From the J-box the goods pass through a tight strand washer and squeezer, over reels, through a pit or vat containing a soda ash solution, through a squeezer, and thence to the kier or continuous bleaching machine. The purpose of the soda ash treatment is the neutralization of residual acid in the cloth at this point, and the strength of the soda ash solution should be such that some excess alkalinity is provided after the neutralization of the acid in the cloth.

Regardless of the desizing method used, the wash through the tight strand washer after the steeping lay period completes the preparatory processing and the goods are ready for the bleaching operations.

Combination Desize. It might be well to mention that some plants use an enzyme-followed-by-brown-sour combination treatment and that some mills use slack washers rather than the tight strand type. Slack washers must be operated at slower speeds than tight strand washers. With the newer tension-controlled high speed washers now available there isn't so much need for the slow speed slack washers even on the more delicate fabrics.

(To be continued)

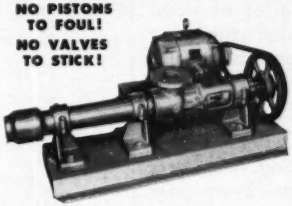
R & M MOYNO® PROGRESSING-CAVITY PUMP



for

CAUSTIC SOLUTIONS • SIZINGS • TINTING-LIQUID VISCOSE AND CELLULOSE ACETATE • ETC.

NO PISTONS TO FOUL!
NO VALVES TO STICK!



Moynos can be direct-connected to motor, belt-driven, or operated through a variable-speed transmission. Head developed is independent of rotor speed; displacement is approximately proportional.

Pumping troubles? End them *now* with long-lasting R & M Moynos—the pumps with *amazing* "progressing-cavity" action. They resist abrasives, chemicals—handle everything from liquids to pastes—keep going on the *tough jobs* where other pumps have failed.

MOYNOS DO THE IMPOSSIBLE—Moynos self-prime, pass particles and solids in suspension, deliver uniform flow and *positive* pressures to 1000 p.s.i. They won't cavitate or vapor-lock—reverse by reversing rotation—cut pumping costs in textile mills by sure, *low-maintenance* service.

Multi-stage units for higher pressures merely have longer rotor-stator pumping elements and, thus, more continuous seal lines over which pressure is equalized. Single-stage units have three seals.

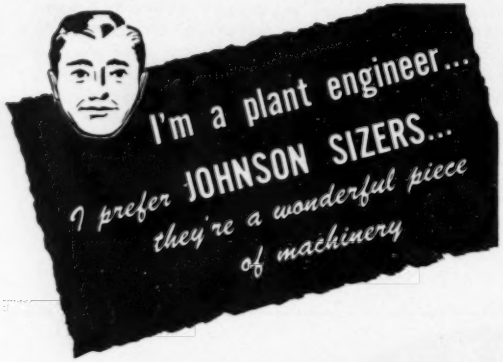
CLEAN

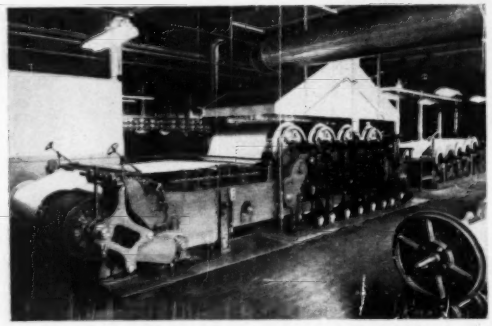
Lubricant can neither contaminate or be contaminated in the Moyno. There are no bearings in the pumping compartment.

MORE ABOUT MOYNOS

For the whole Moyno story—specifications, ratings, dimensions—call in your Moyno Man today or write for free Bulletin T-30-I.

ROBBINS & MYERS, INC.
• MOYNO PUMP DIVISION •
SPRINGFIELD 99, OHIO • BRANTFORD, ONTARIO
MOTORS • HOISTS • CRANES • FANS • FOUNDED 1878





"I look for good engineering in every machine I see. The Johnson sizer is tops in a lot of ways. Take the cylinders. On Johnson slashers these are true and smooth. I like the ends too. They stand the heavy loom beams we are running today.

"I like Johnson's way of assembling and running a slasher at the factory before shipment. We started our Johnson slasher operating *two hours* after it was assembled on our floor. Every part fitted. Tolerances were close. These are only two or three of the Johnson features that speak of the careful engineering that appeal to me. That's why I rate Johnsons as 'tops.' "

If you'd like to have a step-by-step breakdown of Johnson sizers, showing how carefully Johnson sizers are engineered, write for our 16-page, 3-color illustrated catalog entitled "Johnson Warp Sizers."

Charles B. Johnson

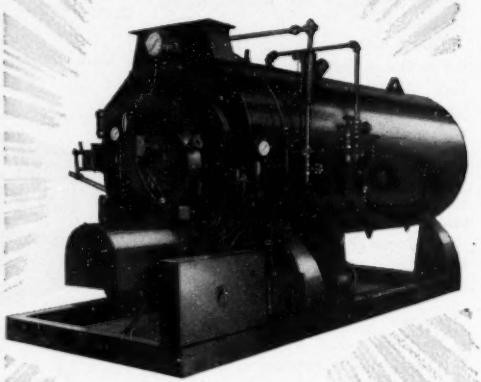
PATERSON NEW JERSEY

REPRESENTATIVES

New England & Canada:
J. S. Fallow & Co.
New Bedford, Mass.

For the South:
Lucas Associates, Inc.
Charlotte 1, N. C.

YEARS AHEAD in Steam Generation



CYCLONIC COMBUSTION!

The slogan "Years Ahead in Steam Generation" is *Not* just an advertising phrase but is a statement of fact.

The truly amazing method of Cyclonic combustion has been proven successful by U. S. Industry and again by the Armed Services.

Full power operation from a cold start in 15 to 20 minutes. Savings up to 50% on maintenance. Great fuel operational savings.

Details of these and many other facts regarding Cyclotherm generators are available by writing Dept. K.

Boilers are designed for oil or gas operations from 18 thru 500 h.p., 15 to 200 lbs. operating pressure.

see our CATALOG in SWEET'S FILE ARCHITECTURAL

CYCLOTHERM
STEAM GENERATORS
OSWEGO, NEW YORK

SUPPLIERS News
WHAT THEY ARE DOING

The B. F. Goodrich Co. has announced the appointment of Charles H. Schroeder as technical manager of textiles in the industrial products division, succeeding the late Clarence W. Brees. Mr. Schroeder has been with the firm since 1921.

Nelson White, engineering department, Deering, Milliken & Co., and Falls L. Thomason of the New York & New Jersey Lubricant Co., have been selected by the **American Society of Lubrication Engineers** to organize a southern chapter, with headquarters in Greenville, S. C.

The **American MonoRail Company** celebrated its 25th anniversary on May 14.

Thomas R. Lawson has been appointed assistant sales manager of industrial products for the **Westinghouse Electric Corp.**, with headquarters in Pittsburgh, Pa. The northwest district headquarters of the company have moved to new offices in the Merchandise Mart, Chicago, Ill., to consolidate a number of operations at one location. To distribute products of the Canadian Westinghouse Company, Ltd., a wholly owned subsidiary has been formed, known as the Canadian Westinghouse Supply Co. Roy L. Brown is vice-president and general manager of the new firm.

Roliston G. Woodbury, vice-president of **Textile Banking Co., Inc.**, was recently elected president of the New York Credit & Financial Management Association.

Geigy Co., Inc., has opened new offices at 3901 M Street, Philadelphia, Pa. A new laboratory and increased warehousing and shipping facilities are provided. Herman L. Steen succeeds R. L. Quinn, retired, as manager.

C. Gordon Hertslet has been made head of the **Gaylord Container Corp.'s** newly formed customer public relations and advertising departments. Mr. Hertslet was previously associated with Oakleigh R. French and Associates.

Universal Winding Co. has announced that Paul P. Johnson has been placed directly in charge of all manufacturing for the firm.

Edda International Corp. has opened a new southern sales and technical service office at the Calhoun Towers, Greenville, S. C. This office, as well as the one in New York, is under the supervision of B. Gudjonsson and H. A. Nagel.

Morningstar Nicol, Inc., is celebrating its hundredth anniversary this year, according to Joseph Morningstar, president and grandson of the founder of the company. As part

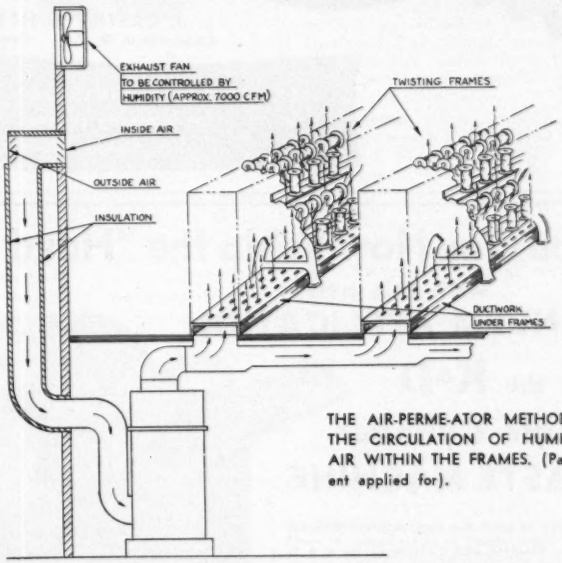
AIR-PERME-ATOR

announces a

NEW PROCESS FOR EVACUATING HEAT

from

HIGH SPEED TWISTING FRAMES



THE AIR-PERME-ATOR METHOD: THE CIRCULATION OF HUMID AIR WITHIN THE FRAMES. (Patent applied for).

Excessive heat in frames is evacuated by Air-Perme-Ator's latest development.

Static electricity eliminated.

Moisture and strength retained in synthetic fibres resulting in quality of yarn.

Yarn weight losses prevented.

In a humidity conditioned room maintaining 50% relative humidity and 85° F., temperature within the frames rose to 102° and relative humidity dropped to 20%.

In comparison: In a room with the Air-Perme-Ator installation, temperature read 76° F., relative humidity 58%. Within the upper frames temperature read 79°, relative humidity 50%.

for further information write:

AIR-PERME-ATOR MFG. CO.

300 Preakness Ave. **Paterson, N. J.**

KEESTAR PRODUCTS

Victor MILL STARCH

ALWAYS UNIFORM

The Weaver's Friend

Call your KEEVER SALES - SERVICE MAN On Slashing Problems

CHARLES C. SWITZER
Division Manager
Greenville, S. C.

F. M. WALLACE
Birmingham 9, Alabama

L. J. CASTILE *Charlotte 3, N. C.*

E. HAYS REYNOLDS *Greenville, S. C.*

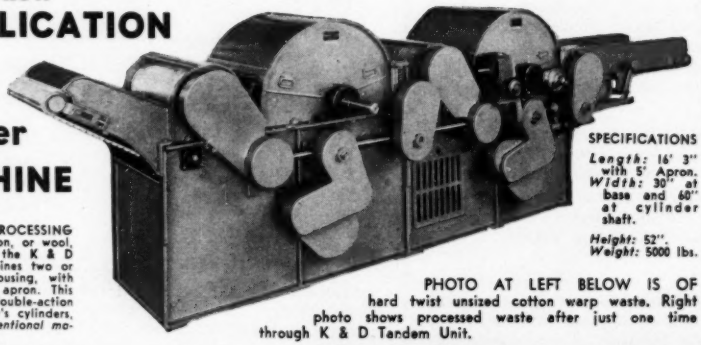
JAMES C. JACOBS *Spartanburg, S. C.*

TEXTILE SALES DIVISION • THE KEEVER STARCH CO.
1200 WOODSIDE BUILDING, GREENVILLE, SOUTH CAROLINA
General Offices, Columbus 15, Ohio

You Can Now Whip the "Hard Waste" Problem

with this new

TANDEM APPLICATION of the K&D Single Cylinder WASTE MACHINE



SPECIFICATIONS
Length: 16' 3" with 5' Apron.
Width: 30" at base and 60" at cylinder shaft.
Height: 52".
Weight: 5000 lbs.

DESIGNED TO MEET THE NEED FOR PROCESSING unsized "Hard Waste" in cotton, rayon, or wool, this new TANDEM APPLICATION of the K & D Single Cylinder Waste Machine combines two or more single-cylinder units in one housing, with only one feed apron and one exit apron. This TANDEM APPLICATION, providing double-action waste processing on each of the unit's cylinders, is far *more efficient than bulky, conventional machines with twice as many cylinders.*

PHOTO AT LEFT BELOW IS OF hard twist unsized cotton warp waste. Right photo shows processed waste after just one time through K & D Tandem Unit.

THE MILL* WHICH SENT THE "HARD WASTE" SAMPLE shown at right ordered one K & D TANDEM UNIT immediately after we ran their samples. They were so pleased with their installation that they have already ordered additional units!

*(NAME OF MILL ON REQUEST.)

BEFORE AFTER

WRITE, WIRE OR TELEPHONE for details of uses, cost, and installation of the new Tandem Application of the K & D Single Cylinder Waste Machine.

Kirkman & Dixon
MACHINE SHOP AND FOUNDRY
Greenwood, South Carolina

MANUFACTURERS OF K & D Single Cylinder Waste Machines, F-5 Hopper Feeders, in any width, Sargent Combs for Hopper Feeders.

SUPPLIERS News
WHAT THEY ARE DOING

of its anniversary program, the firm has put into effect a profit-sharing plan to benefit all employees with two or more years of continuous service, including the employees of all subsidiary companies.

R. E. Greenfield, formerly general superintendent, has been elected vice-president of **A. E. Staley Manufacturing Co.**, and will be in charge of manufacturing operations.

Chemstrand Corp., subsidiary of American Viscose Corp. and Monsanto Chemical Co., has concluded negotiations with E. I. duPont de Nemours & Co., Inc., Nylon Division, for production of nylon under the company's patents. The firm is planning to build a mill for this output near Pensacola, Fla.

Hall and Co., Spartanburg, S. C., mill supply house, has moved into a new all steel warehouse, which has railroad sidings to accommodate six freight cars. The firm is headed by F. N. Hall.

A new mechanical power department has been organized by **Allis-Chalmers Manufacturing Co.**; it will be headed by W. A. Yost, who formerly was head of the steam turbine department.

South Carolina has been added to the territory of C. H. White, who has been representing **Marquette Metal Products Co.** in North Carolina. Mr. White will move his headquarters from Greensboro, N. C., to Charlotte, N. C.

Herman K. Moeller has been made manager of the fabric development section, rayon division, of the **Du Pont Co.'s** rayon department, succeeding E. A. McAbee, resigned.

John Wyatt, formerly with Burlington Mills Corp., has joined **Watson & Desmond** as manager of the firm's Greensboro, N. C., office. Watson & Desmond represent Watson-Williams Manufacturing Co., Machinecraft, Inc., and other manufacturers of supplies for the textile industry.

Mr. Wyatt

Two new vice-presidents have been named by the directors of **Draper Corp.** William K. Child was elected vice-president and general sales manager, and will transfer his headquarters from Spartanburg, S. C., to Hopedale, Mass. Walter M. Mitchell was placed in charge of southern sales, and will move from Atlanta, Ga., to Spartanburg. With these transfers, Erwin N. Darrin, vice-president and general sales manager, will relinquish his activities in connection with the sales department

BURKART-SCHIER CELEBRATES ANNIVERSARY

The textile manufacturing division of **Burkart-Schier Chemical Co.** celebrated its 25th anniversary on May 11 with a banquet at the Read House in Chattanooga, Tenn. The division manufactures textile penetrants, soaps, detergents, wetting and finishing agents.

Orr SLASHER Cloth

With Special Chemical Treatment

Something New and Better

● Slasher Cloth is an important maintenance item in a cotton mill. With the introduction of ORR Slasher Cloth with Special Chemical Treatment, many of the problems which have pestered the slasher room foreman have been eliminated.

The slasher room foreman, in order to satisfy the superintendent and the cost department, must have available a Slasher Cloth that:

1. Dresses the yarn properly.
2. Holds its width. No shrinkage.
3. Maintains level production performance.
4. Starts fast — lasts long.

ORR Special Treated Slasher Cloth maintains uniform dressing properties, resists bacteria and steam degradation, maintains dimensional stability. Discuss your Slasher Cloth problem with your ORR representative.

Distributed by

J. S. FALLOW & CO.
279 Union St., New Bedford, Mass.
OLIVER D. LANDIS
718 Queens Rd., Charlotte 7, N. C.
Telephones: 3-0958—3-4557
P. W. COLEMAN
Box 1393, Greenville, S. C.

MANUFACTURED BY

THE ORR FELT & BLANKET CO.

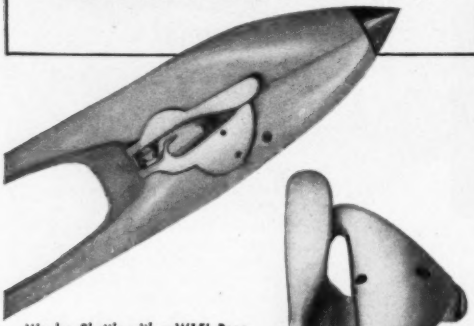
PIQUA, OHIO, U. S. A.

Industrial Woolens by Orr

STARTS FAST — LASTS LONGER

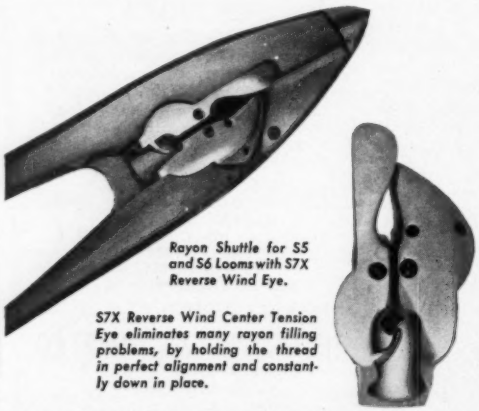
Keep ahead of your shuttle needs

Give ample protection to your weaving standards, which the Shuttle People help you to maintain, by purchasing your shuttles well ahead of time. Be on the safe side, and certain of those Watson Williams shuttle features on which you particularly depend. Allow at least an extra month for us to meet your exact requirements.



Woolen Shuttle with a W15L Rear Tension Eye, interchangeable with other famous Watson Williams regular and tension eyes.

W15L Rear Tension Eye maintains an even tension at all times on filling. Prevents many troublesome weaving imperfections.



Rayon Shuttle for S5 and S6 Looms with S7X Reverse Wind Eye.

S7X Reverse Wind Center Tension Eye eliminates many rayon filling problems, by holding the thread in perfect alignment and constantly down in place.

WATSON-WILLIAMS MFG. CO.

MILLBURY, MASSACHUSETTS

SOUTHERN REPRESENTATIVES:

Watson and Desmond, Box 1954, Charlotte, N. C.
Arthur J. Bahan, 810 Woodside Bldg., Greensville, S. C.
John Wyatt, Jefferson Bldg., Greensboro, N. C.

NORTHERN REPRESENTATIVE:

Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.

HAYSSEN-WRAPPED

IT PAYS TO WRAP THE HAYSSEN WAY

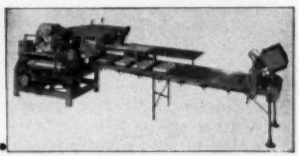
Sales-starter packaging

Hayssen Automatic Wrapping gives you better looking packages at low unit-cost. Printed wraps are carefully registered by the Hayssen Electric Eye and practically any type of wrapping material may be used. Hayssen Textile Wrapping Machines are mechanically simple and have a high production rate. Ask for descriptive literature — no obligation.

HAYSSEN MFG. COMPANY • SHEBOYGAN, WIS.

Hayssen
ELECTRIC EYE
WRAPPING MACHINES

WRITE FOR COMPLETE INFORMATION TODAY



and will devote his time to other executive duties in the corporation.

Supreme Knitting Machine Co., which won E Awards during the last war, is again engaged in war work, making the same type of product.

Osborn Manufacturing Co., Cleveland, O., has announced the appointment of A. J. Steffens, Jr., as sales

Mr. Steffens

engineer. Mr. Steffens has the territory of North and South Carolina, Eastern Georgia, and Florida, with headquarters in Charlotte, N. C.

Michael Sheehan has been named a vice-president of Commercial Credit Corp., subsidiary of **Commercial Credit Co.,** Baltimore, Md. Mr. Sheehan will be in charge of advertising and sales promotion activities.

Leeds & Northrup Co., Philadelphia, Pa., has announced the removal of its Boston office to larger quarters at 430 Lexington Ave., Auburndale, Boston 66, Mass.

Joseph G. Donharl, formerly with Rohm & Haas, has joined **Woonsocket Color & Chemical Co.** as manager of the Philadelphia district, which includes Pennsylvania, New Jersey, Delaware, and Maryland.

Frank Story was recently made advertising and sales promotion manager of **L. J. Wing Manufacturing Co.,** Linden, N. J.

The United States Testing Co. has moved its Woonsocket, R. I., branch laboratory to 211 West Exchange St., Providence, R. I.

Fred H. Haggerson, president of **Union Carbide and Carbon Corp.** since 1944, has also been elected chairman of the board of directors.

E. Prentys Word, formerly representative for the Lunkenheimer Co., is now vice-president and general manager of **Taylor-Parker Co., Inc.,** Norfolk, Va., distributors of industrial supplies and machinery.

The **Macbeth Corp.** has acquired a second plant in Newburgh, N. Y., for the manufacture of optical and electronic instruments. This represents a doubling of present manufacturing and research facilities.

R. W. Hooker, of the **Hooker Electrochemical Co.,** was recently elected a director-at-large of the Armed Forces Chemical Association.

I. T. Meyer has been appointed vice-president in charge of manufacturing of **Industrial Rayon Corp.** He was previously manager of the firm's Covington, Va., Plant.

Mathieson Chemical Corp. has announced the appointment of Ralph L. Carr as manager of the technical service department.

Link-Belt Co. has under construction an engineering and manufacturing plant for the production of

SUPPLIERS News
WHAT THEY ARE DOING

elevating, conveying, and processing machinery. It is located at Colmar, Pa.

Dexter Chemical Corp., textile chemical division, has added to its

Mr. Henley

sales staff E. P. Henley, who will represent the firm in eastern North Carolina and Virginia. Mr. Henley's headquarters are in Greensboro, N. C.

Walter E. Murray, formerly as-

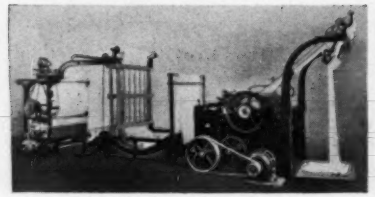
THIN BOILING AND TEXTILE STARCHES

AT YOUR SERVICE

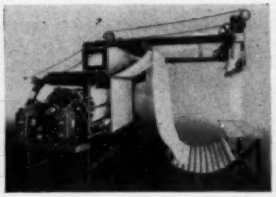
The Hubinger technical staff and laboratories are widely recognized for their thorough and practical knowledge of the use of starch for textiles. Their experience assures you of the *best* product, *tailor-made* to fit *your specific needs*. Consult us on any production problem—at no obligation, of course.

Absolutely uniform and dependable. Careful quality control assures maximum performance in your mill.

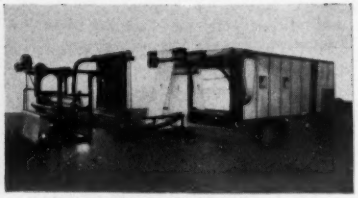
THE HUBINGER COMPANY
KEOKUK, IOWA · · EST. 1881



Gessner Hydro Pressing Unit

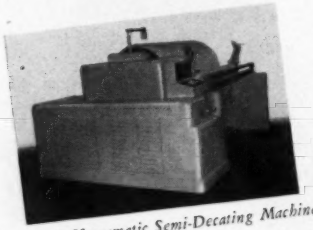


Gessner Rayon Napper



Gessner Continuous Shrinking Outfit

YOUR MOST URGENT FINISHING REQUIREMENTS *Have Top Priority With Us*



Gessner Versamatic Semi-Decating Machine

When you are confronted with a problem of maintaining a high standard of finishing on your fabrics, we stand ready to do everything we can to overcome that problem for you — whether this involves a *new* Gessner Improved Cloth Finishing Machine, or parts for your present Gessner equipment. Nor are we unmindful of the difficulties we face in the procurement of materials.

Our efforts to meet these immediate needs of yours, however, will in no way sidetrack our current designing, and manufacture of further improved cloth finishing units, which will increase both the quality and quantity of your production.

Keep watch of Gessner improvements and let Gessner keep watch of your finishing requirements.

DAVID GESSNER COMPANY
WORCESTER, MASSACHUSETTS
Improved Cloth Finishing Machinery
Canadian Representative: W. J. Westaway, Montreal, Quebec; Hamilton, Ont.

Nappers, Presses, Decating Machines, Decating Aprons, Vacuum Extractors, Scutchers, Shrinking Plants, Hydrolizers, Gigs, Brushes, Spot Proofing Machines, Squeezing Machines, Sponging Machines.

"Standard" PORTABLE STYLE No. 1530 TAPE SEWING MACHINE

New portable Tape Sewing Machine for sewing Spinning and Twister tapes. Adapted to many other uses. Produces lock stitch and has accurate stitch adjuster. Also has REVERSE MOTION and self-releasing bobbin winder. Hand operated • Compact for small space operation • Adjustable seat • Swivel casters.

For complete details — write for descriptive folder.

SERVICE QUALITY STAMILCO HONESTY SECURITY ESTD. 1898

STANDARD MILL SUPPLY
PAWTUCKET, R. I., 1064-1080 Main Street
NEW YORK, N. Y., 6708 Empire State Bldg.
CHARLOTTE, N. C., 2319 Hutchison Ave.

Sterling Ring Travelers

ALLOTMENTS

Every order should be a "DO" order.

STEEL and BRONZE are allotted to us for making RING TRAVELERS, by the amount of RATED ORDERS we can show.

APPLY RATING AND CERTIFY EVERY ORDER

Box 204	M. H. CRANFORD Chester, S. C.
Box 882	D. R. IVESTER Clarksville, Ga.
Box 150	T. B. FARMER Langley, S. C.
Box 803	J. S. FURTADO Fall River, Mass.

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

SUPPLIERS News
WHAT THEY ARE DOING

sociated with the Warwick Chemical Company division of Sun Chemical Corp., has been elected president of the **Crown Chemical Corp.**, Providence, R. I.

I. W. Wilson has been made president of **Aluminum Co. of America**, succeeding Roy A. Hunt, who is now chairman of the executive committee. Leon E. Hickman was elected vice-president and general counsel of the firm. The firm has also announced plans for construction of an aluminum smelting plant at Wenatchee, Wash., capable of supplying 170,000,000 pounds of aluminum annually for the country's defense and civilian needs.

Howard Elliott and Frank J. Scanlan were recently appointed district sales representatives for the Star-Kimble Motor Division of **Miehle Printing Press and Manufacturing Co.** Mr. Elliott will represent the firm in Long Island, Staten Island, and Brooklyn, N. Y., while Mr. Scanlan will take care of northern New Jersey.

The midwest sales office for **Sarco, Inc.**, has moved to larger quarters at 322 West Randolph St., Chicago 6, Ill. George H. B. Burke is manager.

Kent Ravenscroft, formerly advertising manager of **Gaylord Container Corp.**, has become vice-president of the Security National Bank and Trust Co. of St. Louis, Mo.

Frank A. Davenport has been made Kaylo sales engineer in Atlanta, Ga., for **Owens-Illinois Glass Company.** The Atlanta sales territory includes the states of North and South Carolina, eastern Tennessee, Georgia, Alabama, and Florida.

Crawford & Garner, Inc., mill supplies, has moved its offices and warehouse from Greer, S. C., to Airport Road, Spartanburg, S. C. The firm is headed by Joe Crawford and Alex Garner.

William B. Martin, formerly with the engineering firm of Francisco and Jacobus, has joined the **H & B American Machine Co.** as manager of

NEW TEXTILE LABORATORIES IN SPARTANBURG

The **Blackman-Uhler Co.**, southern representatives for the Hilton-Davis Chemical Co., division of Sterling Drug, Inc., recently opened new textile laboratories at 182 Ezell St., Spartanburg, S. C. The laboratory has been supplied with the latest, complete, scientific equipment for the testing of dyes for experimental work.

Buy
MONTICELLO

Card room bobbins with gun barrel finish inside and out; precision made to your specifications.

Warp spinning bobbins for high speed production and quality yarns . . . made from Hard Rock Maple.

Filling quills precision made from Hard Rock Maple.

All Dogwood Skewers.

MONTICELLO BOBBIN CO.

We are licensed to manufacture tubes for New Era Spindles.

The ONLY Independent Bobbin Manufacturer in the South

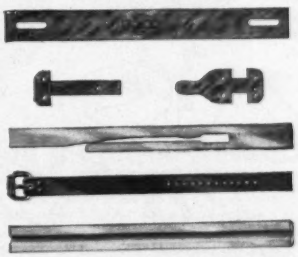
MONTICELLO, GEORGIA

WHY BUY 3 or More Check Straps When Just 1 ABC HAIRON Will Do?

By actual tests one ABC HAIRON Check Strap has outlasted up to as many as six competitive straps.

Make a test in your mill . . . buy 100 lbs. of ABC HAIRON straps and 100 lbs. of straps from selected manufacturers. Have one loom fixer install all straps and keep accurate records.

ABC HAIRON will win out again!



ATLANTA BELTING CO.

508-510 Whitehall St. S. W.

ATLANTA • GEORGIA

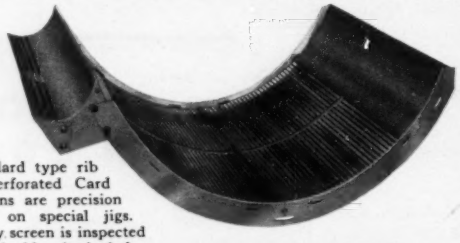
SPECIALISTS IN BUILDING STRAPS TO SUIT YOUR LOOM

MORE PRODUCTION AT LOWER COSTS

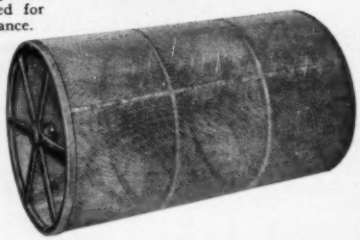
with GASTONIA TEXTILE

SHEET METAL PARTS

The quality and the profit of your end product starts at the beginning—where preparatory machinery must be geared for efficient, economical volume production. That's our job—a job for specialists with the reputation for top quality products, painstaking workmanship and reliable service.

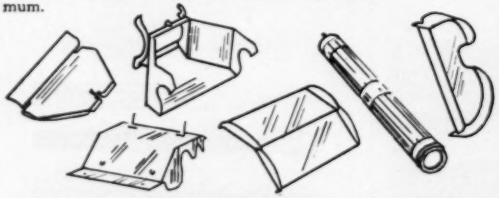


Standard type rib or perforated Card Screens are precision built on special jigs. Every screen is inspected and double checked for accuracy and tolerance.



Picker, Condenser and Waste Machine Screens of maximum strength and durability are constructed of the best materials available.

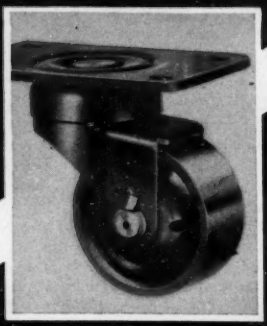
New and rebuilt Cylinders are dynamically balanced to reduce vibration to an absolute minimum.



Years of practical experience—the finest of raw materials—and precision machinery in the hands of skilled workmen go into every product.

GASTONIA TEXTILE SHEET METAL WORKS, INC.
GASTONIA, NORTH CAROLINA

A SHEET METAL WORKS SERVING TEXTILE MILLS



DARNELL CASTERS

& E-Z ROLL WHEELS

Whether for light, medium or heavy duty use, Darnell Casters and Wheels are built to take punishment.

KEEP TURNING AND EARNING

Built-in quality assures a long life of efficient service—it pays to "Demand Darnell Dependability".

DARNELL CORP. LTD.
LONG BEACH 4, CALIFORNIA
60 WALKER ST. NEW YORK 13, N. Y.
36 N. CLINTON CHICAGO 6, ILL.

the Charlotte, N. C., branch office. Mr. Martin will supervise the company's sales activities in the North and South Carolina territory.

Lubrication engineer L. C. Mitchum, who has for the last fifteen years served Georgia textile mills and other

Mr. Mitchum

industries for **The Texas Co.,** is now assigned to the Atlanta area industrial division and will contact industries in cities of Atlanta and Marietta. Lubrication engineer J. M. Malone will call on concerns formerly contacted by Mr. Mitchum.

A newly formed corporation, **Alexander Brothers Belting Co.,** has purchased Alexander Bros., Philadelphia, Pa., and Charlotte (N. C.) Leather Belting Co., from Armour & Co., with the exception of the curried leather department. Charlotte Leather Belting Co. will be operated as a division of Alexander Brothers Belting Co. G. L. Bryson has been named president and general manager; George L. Abbott, vice-president and treasurer; and Edward P. Alexander, secretary.

Temperature Equipment Corp., 816 North Kostner St., Chicago, Ill., has been named distributor in the Chicago area for the **Cyclotherm Corp.,** Oswego, N. Y.

A new department, designated the maintenance chemicals department and headed by Horace F. McIntyre, has been formed by **Pennsylvania Salt Manufacturing Co.,** to serve industry and business in maintenance work.

Holyoke Machine Co. has issued an announcement that it is, and has been since 1880, sole manufacturer of "Holyoke" paper, cotton, and combination calender rolls for the paper and textile industries. It is likewise sole manufacturer of "Holyoke" and "Norwood" water filtration equipment.

Yale & Towne Manufacturing Co. has announced the sale of its industrial scale business to **Detecto Scales, Inc.,** Brooklyn, N. Y. The transaction involves scale patents, equipment, parts, and inventory, but none of the Yale trade marks except "Kron."

A new rayon mill at Caracas, Venezula, is being planned by **Celanese Corp. of America, Inc.,** to be equipped for an initial rating of about 5,000,000 lb per year. This is part of a general development program of the company, which includes a multistory building and several auxiliary structures at the firm's Rock Hill, S. C., rayon yarn mill.

Celanese Lanese Corp., a subsidiary of Celanese Corp. of America, Inc., is constructing an addition to the mill and will install equipment for considerable increase in capacity.

Carter G. Cook, formerly with A. C. Lawrence Leather Co., has joined the research staff of **Fabric Research Laboratories,** Boston, Mass., and will specialize in finishing and coating compounds for textiles.

SUPPLIERS News
WHAT THEY ARE DOING

In recognition of his prominence in all activities of the Textile Technical Federation of Canada and the Canadian Association of Textile

Mr. Redston

Chemists and Colourists, John P. Redston, sales manager of the textile chemicals department of **E. F. Drew & Co., Inc.,** New York, N. Y., was recently awarded the Meritorious Service Award by the Textile Technical Federation of Canada.

NEW "PVR" Lineal Measuring Machine

The Counter that gives you a Printed Record

MILL RESULTS PROVE...

- **ELIMINATION OF COSTLY MISTAKES** — printed figures cannot be misread.
- **COST SAVINGS** — true measurement to nearest ⅛ yard is always recorded.
- **INCREASED PRODUCTION**—no time wasted by operators in writing figures.
- **CUSTOMER ACCEPTANCE**—printed record is accepted as exact measurement.

The quick lever reset on this new "PVR" Productimeter enables operator to produce more per day. It permits optional resetting with each print, or printing multiple times without resetting the counter. Savings over a short time more than justify installation costs. Investigate NOW.

Durant Sales Engineers will be glad to demonstrate.

Send for Bulletin PVR

DURANT MFG. COMPANY
1973 N. Buffum St. 173 Orange St.
Milwaukee 1, Wis. Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 — Speedometers OF INDUSTRY

Are you faced with

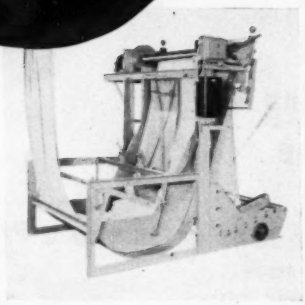
1. Possible labor shortages?
2. High production costs?
3. Meeting rigid quality control?

Then turn to

Mount Hope CLOTH HANDLING DEVICES

MOUNT HOPE Continuous Roll Feeds

Cut Costs
Save labor - Save time
Save cloth



Maintain full speed production on all roll-fed machines while new rolls are sewed on.

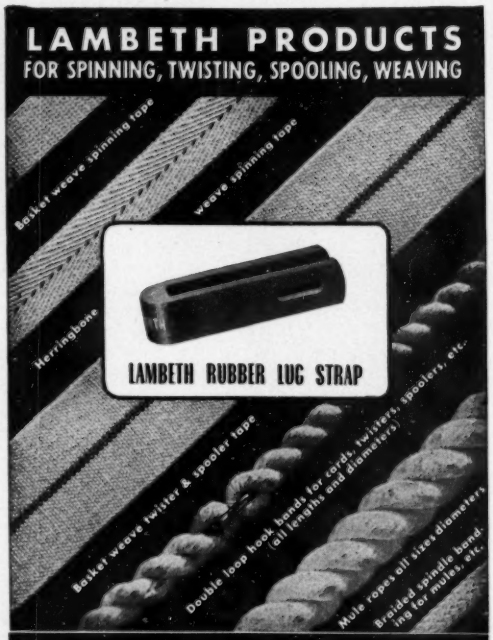
For full details, write for Bulletin CRF 1

Watch for Other Mount Hope Equipment

MOUNT HOPE MACHINERY COMPANY

35 FIFTH STREET • TAUNTON • MASSACHUSETTS

LAMBETH PRODUCTS
FOR SPINNING, TWISTING, SPOOLING, WEAVING


Basket weave spinning tape
weave spinning tape
LAMBETH RUBBER LUG STRAP
Herringbone
Basket weave twister & spooler tape
Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
Mule ropes all sizes diameters
Braided spindle banding for mules, etc.

LAMBETH ROPE CORPORATION
Plants at New Bedford, Mass. and Kings Mountain, N. C.

DRONSFIELDS' PATENT
ATLAS BRAND
EMERY FILLET

STOCKED BY
THE PRINCIPAL MILL SUPPLY HOUSES AND CARD MAKERS

HELPFUL Booklets FREE

Here is the "cream of the crop" of literature on textile subjects as prepared by TEXTILE INDUSTRIES advertisers to aid in mill operation and management. These reference books and catalogs are free for the asking and there is no obligation involved. Read through the list carefully for booklet on the subject or new Equipment in which you are interested. Then fill in the numbers of those desired on the coupon on page 214 and mail it to TEXTILE INDUSTRIES. ("First Listings" shown below are not confined solely to TEXTILE INDUSTRIES advertisers).

This service is restricted to those engaged in operation and management of textile industries

First Listing of New Publications

7-1. Accurate Measure. Booklet describing the Trumeter line of measuring machines for silks, cotton, linens, woolens, worsteds, waterproofing, oilcloth, carpeting, etc. Full description and illustration of each machine with dimension diagrams along with advantages of each machine. The Trumeter Co., 1265 Broadway, New York, N. Y.

7-2. Lubrication Aid. Broadside designed to aid lubrication and maintenance men in selecting the proper visible, automatic oiler for constant level, gravity, wick, underfeed, multiple and large capacity gravity feed applications. Contains valuable suggestions on how to eliminate the waste and dangers of "trust-to-Luck" hand oiling. Broadside is also useful as a large wall chart. Trico Fuse Mfg. Co., 2948 North 5th St., Milwaukee 17, Wisc.

7-3. Motor Bulletin. New Bulletin describes types of construction and ratings of Allis-Chalmers improved totally-enclosed, fan cooled motors with tube-type, air-to-air heat exchangers Included is a chart showing ratings of totally-enclosed, fan-cooled motors in squirrel-cage, wound-rotor and synchronous types for both horizontal and vertical installation, and a cross section view of horizontal motor construction features. Allis-Chalmers Manufacturing Co., 1054 S. 70th St., Milwaukee, Wisc.

7-4. Surface-Active Agents. Authoritative 48-page booklet covering the nature, grades, properties and applications of Triton and Hyamine surface-active agents. Useful section on preparation of emulsions. Ten tables record data on surface and interfacial tension values, wetting time, spreading coefficients, foaming volumes, stability and other properties. Rohm & Haas Company, Washington Square, Philadelphia 5, Pa.

7-5. Heat Transfer Problems. New technical manual provides the engineer with the principal data required in the solution of heat transfer problems, and simplifies the process of selecting and applying industrial heat transfer equipment by supplying charts and formulas to aid in the basic calculations of industrial heating and cooling applications. Platecoil Division, Kold-Hold Manufacturing Co., Lansing, Mich.

7-6. Swatch Booklet and Yarn Computer. New color swatch booklet of loose-leaf type permitting individual swatches to be readily removed to allow free working use in making color combinations. The new yarn computer is a must for yarn men. Dixie Mercerizing Company, Chattanooga 1, Tenn.

7-7. Sunotex Machine Oil Light. Booklet describes this new lubricant for the needles, sinkers and supplementary parts of all kinds and makes of knitting machinery. Knitters will be interested to learn how this new lubricant can save them money and improve operations by reducing needle wear and breakage, and by keeping parts rust-free. Especially important, as the booklet points out, are the advantages of the new product's easy, complete scourability and excellent light-stability. Sun Oil Company, Philadelphia 3, Pa.

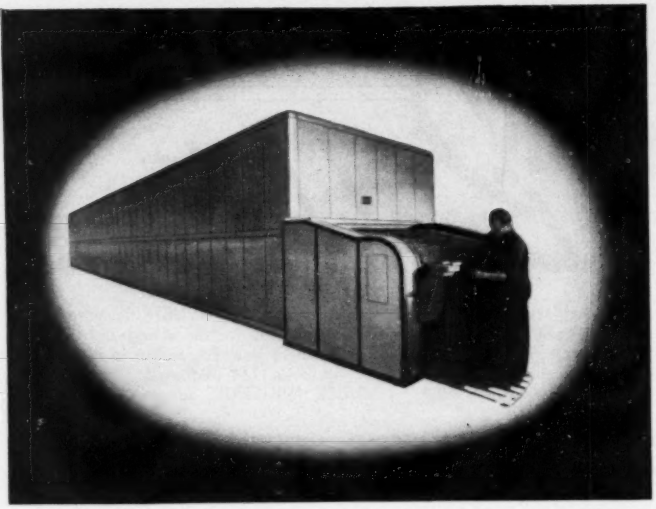
7-8. Tramp Iron Removal. New catalog with complete descriptions of separators, pertinent engineering data including photographs, drawings and tabular specifications are given. Information on the selection of the appropriate magnetic separator as well as a full explanation of the life of permanent magnets and the importance of application engineering. Eriez Manufacturing Company, Erie, Pa.

7-9. "Protecting Your Company's Security." Communist sabotage held threat to all businesses, therefore this 13-page "blueprint" is being distributed by the Research Institute of America. Methods of determining degree of vulnerability; policy adjustments; setting up security program; selecting and installing security officer; tracking down Communists, fellow-travelers, espionage and sabotage; working with the union; getting help from Government Agencies, and the supervisor's or foreman's part in carrying out security measures fully described. Member Relations Division, Research Institute of America, Inc., 292 Madison Ave., New York 17, N. Y.

7-10. Automatic Colorimeter— Honeywell Instrumentation Data Sheet 10.10-3 describes the use and operation of a new self-standardizing apparatus which graphically evaluates the color of raw cotton, providing a direct reading on a two-dimensional scale of the graphic values of reflectance and yellowness for various grades of raw cotton. Described as simple to operate and operators can learn to interpret and evaluate the results of measurements in a relatively short time. Minneapolis-Honeywell Regulator Company, Brown Instruments Division, Wayne and Windrim Aves., Philadelphia 44, Pa.

7-11. Corrosion Notebook. A 16-page " corrosion notebook," contains data on the corrosion resistance of various types of stainless tubing and pipe, and describes the general types of corrosion. The Carpenter Steel Company, Alloy Tube Division, Union, N. J.

7-12. Conveyor Roll Bearings. Technical bulletin No. 200 gives complete information and range of standard sizes of Arguto Oilless Conveyor Roll Bearings for use with driven belt or gravity conveyors. Diagrams and engineering data included. Arguto Oilless Bearing Company, 193 Berkley Street, Philadelphia 44, Pa.



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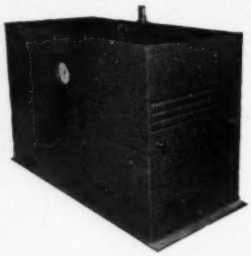

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GENERAL, ECONOMIC, MANAGEMENT

4 HOW FACTORING CAN INCREASE PROFITS—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., New York City.

10 "LABOR AND MANAGEMENT BENEFIT BY INDUSTRIAL ENGINEERING PRINCIPLES"—8 page illustrated folder outlining principles of industrial engineering as they apply to textiles.—AMERICAN ASSOCIATED CONSULTANTS, INC., New York, N. Y.

12 CONDENSED LISTINGS—8 page pocket sized booklet listing by plan flow the machinery and mill supplies available. Designed to help purchaser in grouping his orders to greatest advantage.—ATKINSON, HASERICK & CO., Boston, Mass.

16 TEXTILE RESEARCH — Booklet describing Research Department's commercial scale facilities for cotton spinning, worsted spinning, etc. Explains organization and function of department.—AMERICAN VISCOSE CORP., SYLVANIA DIV., New York, N. Y.

18 FACTORING—Information available on how factoring works to aid client in keeping capital fluid and to avoid credit losses. Inquiries regarding these services welcome.—L. F. DOMMERICH & CO., 271 Madison Ave., New York 16, N. Y.

PLANT AND PLANT MAINTENANCE

103 HUMIDIFICATION, EVAPORATIVE COOLING —Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment.—AMERICAN MOISTENING CO., Providence, R. I.

116 PROTECTIVE COATINGS—Bulletin No. 7-1 lists and gives uses of the complete line of Corrosion-Proof Protective Coatings.—ATLAS MINERAL PRODUCTS CO., Mertztown, Pa.

117 CLEANING SYSTEMS—Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system. Products and uses fully discussed with two story layout of Certified Climate central station air conditioning system.—PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

121 STEAM GENERATORS — Bulletin P-1 describes compact package type boiler for heating, power, or processing. Described as fully automatic, firing all liquid or gaseous fuels.—THE CYCLOTHERM CORP., Oswego, N. Y.

123 STAINLESS STEEL TANKS — Bulletin CHR-50 illustrates the half round stainless steel horizontal jacketed tank with horizontal agitator and scraper blades, used for size cooking. Bulletin JS-50 shows various stainless steel jacketed tanks, and SS-50 shows single shell tanks.—METAL GLASS PRODUCTS CO., Belding, Mich.

133 PAINTING SPECIFICATIONS AND COLOR CHIPS—Industrial Paint and Color Guide, CC446, gives full painting specifications for exterior and interior of industrial plants with complete color samples.—THE SHERWIN-WILLIAMS CO., Painter Maintenance Div., Cleveland, Ohio.

145 META-CLEAN — Complete literature describing Jarrett's Meta-Clean, a new non-inflammable, non-irritating, odorless, concentrated liquid cleaner which greatly reduces cleaning time of looms and other equipment along with small parts, according to the booklet.—CECIL H. JARRETT CO., INC., Newton, N. C.

150 RIHCO HUMIDIFIERS AND COOLING SYSTEMS—Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems.—ALDRICH MACHINE WORKS, Greenwood, S. C.

156 PNEUMATIC ATOMIZERS FOR HUMIDIFICATION—Catalog Section 3A describes the type ESC Atomizer using air and water under pressure for minimum air consumption and simple modulating control.—THE BAHNSON CO., Winston-Salem, N. C.

164 DRY SCRUBBING TEXTILE MILL FLOORS—With Holt combination Sanding and Steel Wooling machines and Selig's Floroseal-Flortone method. Literature describes system and reveals economy made possible by reduced costs in labor and material consumed. —THE SELIG CO., Atlanta, Ga.

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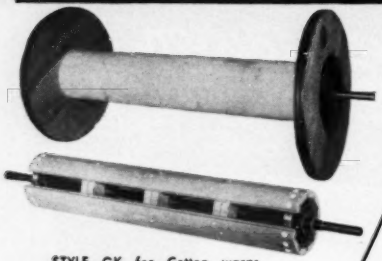

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202 **RELIANCE MOTOR**—Bulletin C-130 on the explosion-proof, corrosive-resisting a-c motor. Design features exclusive with the new motor are connected and illustrated in the bulletin.—THE RELIANCE ELECTRIC & ENGINEERING CO., 1076 Ivanhoe Road, Cleveland, Ohio.

205 **VARIABLE SPEED SPINNING FRAME DRIVE**—Reeves bulletin G-501 describes the Reeves Vari-Spin Drive which has infinitely variable speed within a 2½ to 1 range and replaces the constant speed drives now in use.—REEVES PULLEY CO.

206 **LOOM MOTOR BULLETIN**—The new design of this ball bearing motor is claimed to represent an advance in the design of loom motors fully discussed.—THE LOUIS ALLIS CO., Milwaukee, Wisconsin.

210 **MOTOR BEARINGS**—The 1950 edition of Johnson's Industrial Bearing Catalog is now available. Shows several new motor bearings added, along with the standard stock sizes.—JOHNSON BRONZE CO., New Castle, Pa.

213 **ELECTRICAL SPECIALTIES**—Catalog No. SS68, 64 pages, lists manual and magnetic motor control and accessories, safety switches, Multi-Breakers and electrical specialties.—CUTLER-HAMMER, INC., 361 N. 12th St., Milwaukee 1, Wis.

214 **THE INSIDE STORY OF TRICO RENEWABLE FUSES**—Bulletin No. 1 explains the difference between Trico Powder-Packed and ordinary fuse link design. Quick reading, informative, profusely illustrated. Tells how maximum returns may be secured from fuse investment.—TRICO FUSE CO.

240 **LEATHER BELTING**—Illustrated booklet on how to select, install and maintain leather belting. Efficient transmission performance, with minimum maintenance, and maximum service life described.—SOUTHERN BELTING CO., Atlanta, Ga.

244 **TEXACO SPINDURA OILS**—Folder on lubrication for all types of spindles, based on actual tests.—TEXAS CO., New York City.

256 **METERED LUBRICATION**—Bulletin 6A has 12 illustrated pages showing how central lubricating systems are applied to combers, roving frames, winders, knitters, looms, etc.—BIJUR LUBRICATING CORP., Rochelle Park, N. J.

272 **LUBRICANTS FOR TEXTILE MACHINERY**—Houghton's 6-page folder includes complete recommendation charts for lubricating all types of textile equipment.—E. F. HOUGHTON & CO., Philadelphia, Pa.

INSTRUMENTS, STEAM SPECIALTIES

300 **TEXTILE DIGEST** — 18-page manual reviewing performance-proved procedures for improved handling of more than 60 essential cleaning and related operations in textile mills.—OAKITE PRODUCTS, INC.

311 **PIPING POINTERS**—Industrial maintenance book covering installation and handling of piping, valves, fittings. Well illustrated, practical tips.—CRANE CO., Chicago, Ill.

314 **MOISTURE CONTENT CONTROL** — Bulletin F-3156 giving details of features and benefits of moisture equipment control for slashers and textile applications.—BARBER-COLMAN CO., Rockford, Ill.

316 **HYDRAULIC POWER UNITS** — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc.—B. F. PERKINS & SON, INC., Holyoke, Mass.

319 **GUIDE TO CORRECT INSTRUMENT SELECTION**—This completely revised edition gives a comprehensive bird's-eye view of the companies' entire instrument line. Bulletin 98170. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

324 **STROBOTAC** — Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills."—GENERAL RADIO CO., Cambridge 30, Mass.

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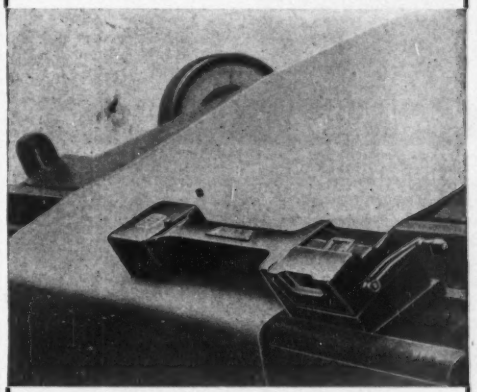

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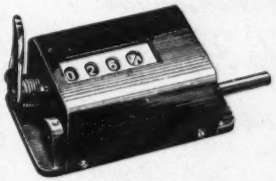

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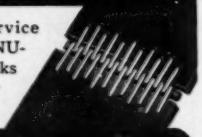

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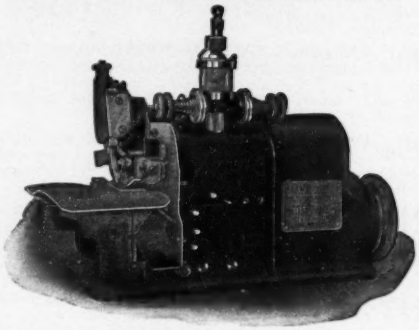

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327 PRESSURE REGULATORS — Bulletin P-100 describes equipment for slashers to provide squeeze roll pressures that can be easily adjusted to the correct value for any warps being sized.—NORCROSS CORP., Newton, Mass.

333 HOSIERY DYEING—Bulletin 98188 with drawings and illustrations, explains automatic control system for hosiery dyeing based on time and temperature.—TAYLOR INSTRUMENT COS., Rochester, N. Y.

CARDING, SPINNING, WINDING

400 THE TRAVELER — Booklet on ring travelers published quarterly with a technical article on spinning and twisting of interest to mill men.—VICTOR RING TRAVELER CO., Providence, R. I.

411 SPINNING MACHINERY—Illustrated folder describing Rieter and Company's precision spinning machinery for cotton, wool, worsted, silk, rayon and blends available upon request.—AMERICAN TEXTILE ENGINEERING, INC., Arlington, N. J.

413 SONOCO PRODUCTS — A 54-page illustrated booklet giving description, specifications and charts of the many Sonoco products, including bobbins, cones, tubes, cork cots, roving cans, spooling, rolls, etc. —SONOCO PRODUCTS CO., Hartsville, S. C.

415 DOUBLE-TWISTER FOR LARGE PACKAGES— Bulletin describing two new machines producing straight or tapered top bobbins. Suitable for filament or spun yarns up to three pound capacity. Individual thread stop motion fully discussed.—FLETCHER WORKS, INC., Philadelphia, Pa.

418 PACIFIC CONVERTER—Graphic description of machine that cuts any synthetic tow; and when desired, blends it with wool or staple sliver, keeping the fibers parallel, and issuing an even sliver of accurate blend.—WARNER & SWASEY CO., Cleveland, Ohio.

423 TEXTILE SHEET METAL PRODUCTS — Folder on cylinders, card screens, licker-in screws, repair work.—JENKINS METAL SHOPS, INC., Gastonia, North Carolina.

427 WINDING AND CREELING WARP YARNS — Universal's Bulletin No. 442 contains an interesting treatment of this subject.—UNIVERSAL WINDING COMPANY, Providence, R. I.

430 "SLIXONICE" BEARINGS — Folder is available on this new, frictionless bearing "that never needs lubrication."—DIXON LUBRICATING SADDLE COMPANY, Bristol, R. I.

432 PRECISION TEXTILE WINDING — Bulletin on Kidde Tensions and Density Control for winding rubber cones.—WALTER KIDDE & CO., INC., Belleville, N. Y.

436 MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER—Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording.—SCOTT TESTERS, INC., Providence, R. I.

442 HIGH SPEED SPOOLING—U. S. Acme Spooler handles yarn from bobbins, cakes, cones, pirns, or skeins, as shown in bulletin describing.—U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

460 REED GRINDING — Booklet describing the TEXMA Reed Grinding and Brushing Machine as the only machine of its kind that cleans and grinds used reeds simultaneously in one operation. — EDDA INTERNATIONAL CORPORATION, New York 16, N. Y.

462 TEXTILE MACHINERY PARTS CATALOG — A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lug Straps, etc.—DAYTON RUBBER CO., Dayton, Ohio.

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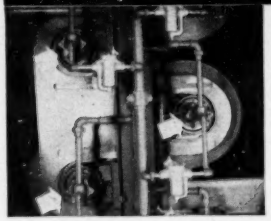

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Those analyses which the Penick & Ford Textile Laboratory in Atlanta made for us certainly helped solve our warp sizing problems.
Jim

507 **VARIABLE SPEED SLASHER DRIVE**—Reeves bulletin G-503 describes their Servo-Control slasher drive which automatically controls tension from creel to beam, and which controls the stretch in the slasher.—REEVES PULLEY CO., Columbus, Ind.

517 **LOADING SYSTEM**—Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices. — THE FOXBORO COMPANY, Foxboro, Mass.

526 **LOOM EQUIPMENT** — Folders on flat heddles, frames, and reeds for all types of looms and weaves.—WALKER MFG. COMPANY, Philadelphia 35, Pa.

531 **EVENNESS TESTER**—Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning.—USTER CORPORATION, Charlotte, N. C.

DYEING, FINISHING, CLOTH ROOM

611 **BRUSHING AND SHEARING MACHINES**—Illustrated literature on the new Hermas Brushing Machine for use light sheeting to heavy ducks; also on Hermas AV Shears.—HERMAS MACHINE CO., Hawthorne, N. J.

612 **PIXOL**—Recommended as a leveling and penetrating agent, especially for the dyeing of wool, described as being useful as a finish for worsted piece goods. Prevents bronziness in sulphur dyeing on cotton. —AMERICAN ANILINE PRODUCTS, INC., New York, N. Y.

619 **HIGH SPEED TENTER FRAME**—Illustrated leaflet showing modern design features which give greater production, longer life and fewer seconds.—MARSHALL AND WILLIAMS CORP., Providence, R. I.

625 **BALL BEARING ROLLER TYPE SCRAY**—Circular No. 904 describing the scray which is for use in handling heavy and large size rolls of cloth. This is used either in finishing plants or in the cloth room of cotton mills.—BIRCH BROS., INC., Somerville, Mass.

627 **SINGLE APRON STOCK DRYERS**—Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

634 **APPLICATION OF INTERCHEM ACETATE DYES**—Bulletin IAD-1 describes procedures for dyeing and printing acetate rayon and nylon fabrics with new line of highly dispersed acetate dyes.—INTERCHEMICAL CORPORATION, TEXTILE COLORS DIVISION, Fair Lawn, N. J.

639 **ROTARY DYEING MACHINE**—Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc.—SMITH, DRUM & CO., Philadelphia 33, Pa.

DYESTUFFS, CHEMICALS, SOAPS

701 **MAGNESIUM APPLICATIONS**—Case history information on magnesium application in the textile field, published bi-monthly with latest developments in the magnesium industry.—DOW CHEMICAL CO., Midland, Mich.

705 **THEORETICAL AND APPLIED SILK-SOAKING** —Attractive 23-page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk.—HART PRODUCTS CORP., New York City.

712 **VANDERBILT MATERIALS**—Available is a 6-page booklet describing non-toxic fungicides, and their use in textile operations.—R. T. VANDERBILT CO., INC., New York, N. Y.

713 **LIOVATINE ED**—Vat dyeing assistant increasing penetration and level dyeings with maximum yield of color.—SANDOZ CHEMICAL WORKS, New York City.

716 **WIDE RANGE SCOURING AND WETTING AGENT** — 4-page folder describing Houghton's concentrated, non-ionic, synthetic detergent and wetting agent, Cerfak 1300, usable over entire pH range for efficient scouring and wetting.—E. F. HOUGHTON & CO., Philadelphia, Pa.

738 **LEVELENE**—Booklet describing use of Levelene for leveling vat and direct colors. Also for stripping down vat colors.—AMERICAN ANILINE PRODUCTS, INC., New York, N. Y.

749 **WATER SOLUBLE GUMS**—Booklet giving the origin, gathering, marketing and uses of water soluble gums. This booklet No. 23 is beautifully illustrated, and is one of the few treatises on the subject.—JACQUES WOLF & CO., Passaic, N. J.

768 **TEXTILE CHEMICALS**—Buying guide and reference book giving facts about Amalgamated Products, the fabrics on which they give best results, their proper application, and their chemical composition. —AMALGAMATED CHEMICAL CORP., Philadelphia 34, Pa.

774 **ROYCE TEXTILE CHEMICALS**—This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing.—ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

776 **SERIZYME**—Bulletin describing the properties and characteristics of Serizyme, a standardized liquid proteolytic enzyme preparation which can solubilize various types of protein substances.—WALLERSTEIN COMPANY, INC., 180 Madison Avenue, New York 16, N. Y.

KNITTING

801 **THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE**—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

806 **STATISTICAL SURVEY** — Covering the Full-Fashioned Hosiery knitting industry in the United States and Canada. — TEXTILE MACHINE WORKS, Reading, Penn.

810 **ALUMINUM BEAMS**—Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types.—HAYES INDUSTRIES, INC., Jackson, Mich.

812 **CIRCULAR KNITTING MACHINES**—Interesting, informative and well illustrated is this six-page folder, just released, which describes this company's small diameter circular knitting machine.—H. BRINTON COMPANY, Philadelphia 34, Pa.

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813 **THE NEW REINER HIGH SPEED TRICOT MACHINE**—168" or 84" knitting widths. A richly illustrated catalog describing its many novel features of construction and performance.—ROBERT REINER, INC., Weehawken, N. J.

820 **VARIABLE STRIPES AND PLAIDS**—Booklet describing Supreme Models SA and SA-ROF Stripers for knitting plaids, checks, "floatless" designs and variable stripes.—SUPREME KNITTING MACHINE CO., INC., 105 Johnson Ave., New York.

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912 **ELASTIC HEMMING AND INSERTING MACHINES**—Bulletin No. 833, illustrating and describing the improved high speed machine Style 992-5, for work on undergarments, dresses, pajamas, etc.—WILLCOX & GIBBS SEWING MACHINE CO., New York, N. Y.

915 **THE NEW UNION SPECIAL LOCKSTITCH MACHINE**—Information on the new model which cuts production time on sewing operations is contained in Bulletin No. 258.—UNION SPECIAL MACHINE CO., Chicago 10, Ill.

MATERIALS HANDLING

1001 **HOW TO DETERMINE WHERE OVERHEAD MATERIALS HANDLING EQUIPMENT CAN BE USED PROFITABLY**—Profusely illustrated. Gives clear, concise understanding of materials handling. Helps you to determine where and what equipment might be used to speed production and increase profits.—CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

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1007 **OVERHEAD HANDLING EQUIPMENT** — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

1009 **CANVAS PRODUCTS**—A complete listing with illustrations of Dandux Canvas Products. For easy fingertip reference and handy file size. Brief but factual information.—C. R. DANIELS, INC., Daniels, Md.

1011 **TEXTILE TRUCKS**—Booklet describing doff boxes, frames and trucks, yarn, waste, platforms, conditioning, steep lap, fiber, utility trucks, etc. Uses and description.—EXCEL TEXTILE SUPPLY CO., Lincolnton, N. C.

1025 **ELECTRIC HOISTS AND CRANES**—Booklets describing a complete line of Electric Overhead, Cab and Floor-Operated Traveling Cranes, and a similar complete line of Electric Hoists. All fully discussed with pictures and engineering diagrams.—SHEPARD NILES CRANE & HOIST CORP., Montour Falls,

1030 **C-D HOLLOW WARE**—This 32-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item. — CONTINENTAL-DIAMOND FIBRE CO., Newark 38, Del.

MISCELLANEOUS

1101 **AUTOMATIC BOBBIN REFINISHER**—A descriptive bulletin illustrating and describing method of refinishing throwing bobbins on a production schedule.—J. M. NASH COMPANY, 2300 N. 39th St., Milwaukee, Wis.

1102 **BALING PRESSES**—An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models.—ECONOMY BALER CO., Ann Arbor, Mich.

1103 **UNBRAKO SCREWS**—Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1106 **ILLUMINATED MAGNIFIER**—Folder showing how Pike Flash-O-Lens is used in textile inspection; illustrated to show various models including the Pike Master Magnifier Set.—E. W. PIKE CO., Elizabeth 3, N. J.

1107 **AUTOMATIC QUILL POLISHER**—Bulletin describes production machine for refinishing loom bobbins. Tells how quills can be kept in perfect condition at minimum labor cost.—J. M. NASH CO., 2300 N. 30th Street, Milwaukee 10, Wis.

1109 **PUMPS**—Catalog R-151-1 describes complete line of horizontal and vertical centrifugal pumps for every water handling service.—PEERLESS PUMP DIV., Food Machinery Corp., Los Angeles 31, Calif.

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1115 **TEXTILE WRAPPER**—Brochure describing automatic wrapping machine for wrapping various types of textile products. Illustrations of packages and all types of wrapping material.—HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

1117 **CUSTOM MADE THREAD GUIDES**—Illustrated booklet describing uses and physical properties of the "AlSiMag" line of Thread Guides. Advantages fully discussed with picture and specifications of each type.—AMERICAN LAVA CORP., Chattanooga 5, Tenn.

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What the TEXTILE MILLS are doing

Lawrence Knitting Mills, Inc., has moved its organization from Bessemer City, N. C., to a new building at 2301 N. Davidson St., Charlotte, N. C.

A $100,000 warehouse is being constructed as part of the overall expansion program of **F. W. Poe Manufacturing Co.,** Greenville, S. C.

Contract has been awarded by **James Lees and Sons Co.,** for a new building at its Glasgow, Va., plant, to be utilized for fabrication and treatment of canvas duck and other U. S. defense requirements.

The Cedartown, Ga., textile mill of **Goodyear Tire & Rubber Co.,** celebrated its 25th anniversary on May 12.

A new clip tenter frame, which has just been installed at the Toledo Dye Works Division of **Textileather Corp.,** is expected to increase production about 30% in the framing department, according to Jules D. Lippman, president. The machine is designed to apply finishes, dry fabrics under tension, in addition to giving the fabric a smooth surface and removing the wrinkles.

The plant of **Walker County Hosiery Mills,** LaFayette, Ga., is being liquidated, with all equipment, etc., being disposed of by auction sale. The owners give as their reason for discontinuing operations the present market conditions and their desire to devote themselves to their other interests.

The **Minneapolis (Minn.) Knitting Works** have been purchased by **Utica (N. Y.) Knitting Co.** No change is being made either in management or in the brand names.

M. Y. Rudisill, president and treasurer of Maiden Spinning Mills, Inc., and W. H. Smith, superintendent, are partners in a new commission twisting and winding plant at Lincolnton, N. C., to be known as **Rudisill-Smith Co.**

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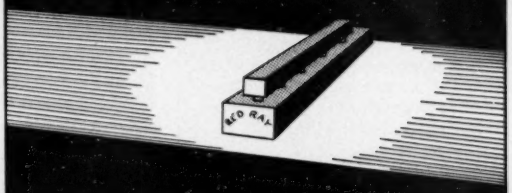

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ANDOVER, MASS.

ton, N. C., is planning a new full-fashioned hosiery mill in the Newton area.

A new firm, known as the **Phenix Webbing Mill**, has begun operations in Phenix City, Ala., as a narrow fabrics manufacturing plant. The company was organized by a group of Columbus, Ga., and Phenix City business men, according to reports.

Space has been rented in Mount Holly, N. C., by **Gotham Hosiery Co., Inc.**, New York, N. Y., for the manufacture of tricot fabrics for Gotham's lingerie department.

Collins & Aikman Corp. has announced expansion of the spinning and weaving facilities in its Bristol, R. I., plants including the installation of 120 new looms in plant "J" weaving unit. Morris Einstein, formerly with American Woolen Co., has been appointed manager of the weaving plant.

Deering, Milliken and Co. has announced plans for construction of a 100,000 sq ft plant near Marietta, S. C., to be known as the Galey Mill. It will be used for manufacture of rayon and nylon fabrics.

The **Anchor Mills Company** recently purchased a four-story office building in Charlotte, N. C., as an investment.

A commission wool combing plant is under construction at Port Elizabeth, South Africa, which will provide facilities for recovering and refining by-products. The mill does not plan to buy its own wool but will process wool for clients at a fixed tariff.

A nylon throwing plant, to employ 150 persons, will be built at Murphy, N. C., by **The Duffy Silk Co., Inc.**, of Buffalo, N. Y.

Revonah Spinning Mills, Hanover, Pa., have started a pilot plant to be known as **Malcolm Mills**, for the spinning of synthetic carpet yarns.

Holyoke Worsted Co. and the larger **Holyoke Fabrics, Inc.**, have moved away from Holyoke, Mass. Holyoke Worsted is now in Kennebunk, Maine, while the other firm has moved to Chicopee, Mass.

Industrial Textile Mills, Inc., Kaufman, Tex., a unit of Industrial Wiping Cloth Co., New York, has just begun operations, and is expected to employ between 250 and 300 persons.

American Felt Co., Glenville, Conn., has plans for a second-story addition to its present building.

Cooper's Inc., knitted underwear, sport shirts, etc., Kenosha, Wis., has taken over a one-story building at Millen, Ga., for operation of a branch mill. The building is presently being remodeled and improved.

Alexander Smith, Inc., is planning construction of a one-story building on Pulaski Highway, Baltimore, Md., to be used as factory branch, storage, and distributing plant.

Abraham H. Marcus is president of the newly chartered **Berkeley Textiles, Inc.**, 65 Bedford St., Boston, Mass.

Magnolia (Miss.) Textiles, Inc., is constructing a one-story addition to the plant, to be used for expansion in output. The cost is expected to be $65,000, exclusive of equipment.

What the TEXTILE MILLS are doing

A building in Asheville, N. C., has been purchased by **Pohatcong Hosiery Mills**, Washington, N. J., and machinery and facilities will be transferred there for plant operation.

Frances Hall is attorney and representative for the recently organized **Robot Looms, Inc.**, Asheville, N. C. Cotton and woolen rugs will be manufactured.

Arrangements have been perfected for the merger of **Cone Mills Corp.**, Greensboro, N. C., and **Dwight Manufacturing Co.**, Alabama City, Ala. The combined organization will operate under the first noted name.

American Thread Co., New York, N. Y., has announced plans for a branch mill at Sevier, N. C., to be equipped as a finishing plant for its yarn division products.

Fieldcrest Mills is moving its rayon

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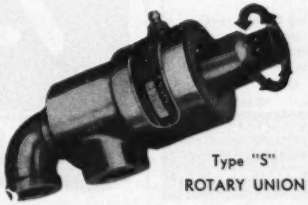

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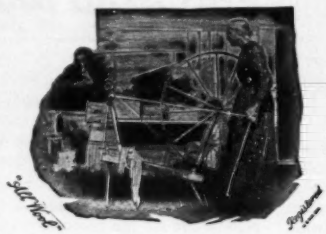

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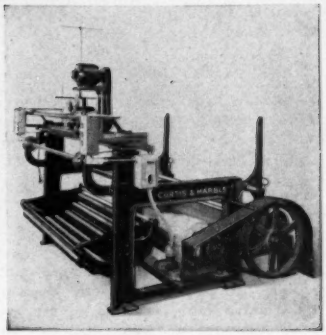

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What the TEXTILE MILLS are doing

piece goods plant from Spray, N. C., to the former woolen mill building at Leaksville, N. C., for increased operations.

An expansion and improvement program is under way by **Victor Silk Hosiery Co., Inc.**, New Britain, Pa. The entire program, including installation of new equipment, is reported to cost nearly $100,000.

Spencer Worsted Co., Inc., Pawtucket, R. I., is planning construction of a one-story addition to its plant, to be used primarily for office service.

James J. Pryor, 915 Hospital Trust Bldg., Providence, R. I., is attorney and representative for the recently chartered **Puritan Manufacturing Co., Inc.** Rayons and other synthetic fabrics will be manufactured.

Two one-story buildings in Stark Industrial Park, Charleston, S. C., have been acquired by **Potomac Yarn Products Co.**, Washington, D. C., for use as a wool processing plant.

A state appropriation of $25,000 has been secured by the Board of Directors, **University of Tennessee**, for establishment of a new cotton research building at the institution.

Virginia-Columbus Mills, a new company headed by George P. Swift, Jr., have begun operation of a new mill in leased space at Petersburg, Va. Woven fabrics will be produced.

Roanoke (Va.) Mills, Inc., has purchased entire machinery of Man-Lee Manufacturing Co., Inc., Asheboro, N. C., and will remove it to the plant at Roanoke.

Construction of a one-story addition to the plant has been completed by **Palm Hosiery Mills, Inc.**, Los Angeles, Cal., and the new space will be used for expansion in output, with installation of new knitting machines and accessories.

National Cotton Mills, Orange, Cal., will construct a one-story mill totaling about 40,000 sq ft floor space. The cost is reported to be in excess of $175,000, with equipment.

Benjamin Hochberg, Willimantic, Conn., is principal incorporator at **Norwich (Conn.) Woolen Mills, Inc.**, recently chartered.

The Carlisle, Pa., and Glasgow, Va., plants of **James Lees and Sons Co.**, were recently awarded certificates of achievement for honors in the 1950 textile industry safety contest by the National Safety Council.

F. F. Phillips, president of Buck County Cotton Mills and Valley Mills, Inc., both in Siluria, Ala., has purchased the mill and property of **Southern Mills Corp.**, Anniston, Ala. Operations are expected to continue without change. Southern Mills will maintain production at their mill at Oxford, Ala.

An addition to Mill No. 1 of **Clinchfield Manufacturing Co.**, Marion, N. C., is planned.

A one-story building, 60 x 130 ft, is being constructed by **Marl-Tex Hosiery Mills**, Boyertown, Pa., and the company will move the present plant to new location when the building is completed.

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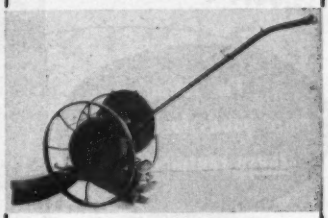


Pat. No. 2543833

Improved Automatic Blower & Sweeper

Designed for Spinning, Spool and Twister rooms, Clark's Improved Automatic Blower and Sweeper has many satisfied customers.

Substantially built, yet ball bearing construction makes it easy to push . . . a big labor and broom saver.

The brush in front sweeps up front waste while a current of air from the side blowers forces the waste from under the frames into the next alley where the brush then picks it up.

Some mills claim, "It paid for itself in only 3 weeks. List of mill users gladly sent upon request. Order one for your mill today for more efficient operation. Price $295.00 f.o.b. Atlanta, Ga.

H. E. CLARK
177 Howard, N.E. Atlanta, Ga.

THE ALLEY SWEEP

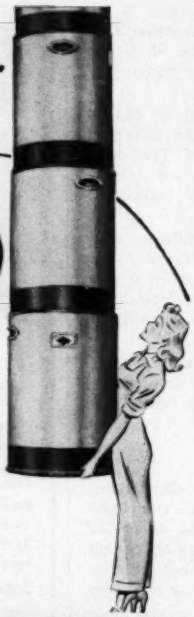
Pat. Applied for

Price $25.00 f.o.b. Atlanta, Ga.

Light, durable, two brushes hinged, opens from closed to 40" wide. Brushes replaceable. Faster than using brooms or brushes and will outlast dozens of them. Cleans as well as sweeps. This is for floors in good condition.

Suzy the stock girl says...

"I'm 'toting' more goods faster with these containers!"



It's a fact. Workers in plants like yours are handling more materials, faster, and at less cost with Diamond Vulcanized Fibre Receptacles. Made from a tough, durable plastic, they stay on the job longer—will not crack, splinter or peel. Available in a complete range of types: boxes, barrels, trucks, cans, etc. Put a few in your plant now, on a "trial basis". You'll be surprised at their light weight, long life—and the way workers like to use them. Send for descriptive catalog.

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Make new any Fluted Roll • Lifter Rods

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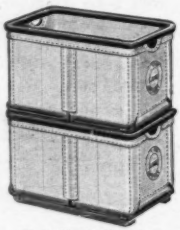
Gone

the old yarn-storage bin.



Style 21 stacking type

LANE

Canvas Boxes

Doff—wind—condition—store.
Function from spindle to loom.
No more dumping into splintery bins.
Just tier up boxes till needed.
Save waste—Save labor.

Write for Catalog No. 1-50

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Manufacturers
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Peerless genuine

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THIS IS YOUR IDENTIFYING MARK FOR THE FINEST LEATHER LONG DRAFT APRONS, AND LEATHER ROLLER COVERING IN THE SOUTH

We combine top quality calfskin leather with experienced workmanship to produce Long Draft Aprons, and Roller Coverings, which give long and satisfactory service.

Send trial order for Aprons, or box of Rollers—Sliver, Lapper, Drawing, Comber Detaching, Draw Box, or Spinning.

Experienced mill men know that leather is the ideal material for long draft aprons, and roller coverings because, first and foremost, it provides *uniform* drafting . . . not affected by temperature changes . . . always pliable . . . no slipping . . . dependable . . . also that any oil dropping on it is absorbed and not passed on to the yarn.

PEERLESS ROLLER COVERING SHOP

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438 FRAZIER AVENUE CHATTANOOGA 5, TENNESSEE

Representatives: For Long Draft Aprons

Carolina Supply Co.—Greenville, S. C.

Personal NOTES
ABOUT MEN YOU KNOW

On June 2 **Martin J. Lydon** was inaugurated as president of Lowell Textile Institute. **Kenneth R. Fox,** former president of the institute and now vice-president of Burlington Mills, Inc., gave the inaugural address.

Robert O. Arnold, president of Covington (Ga.) Mills, has been made chairman of the Georgia State Board of Regents. Formerly vice-chairman and a member of the board from the Fourth District since 1949, Mr. Arnold succeeds Hughes Spalding, resigned.

The South Carolina Textile Manufacturers Association (formerly named the South Carolina Cotton Manufacturers Association) at its annual meeting elected **William H. Beattie,** Woodside Mills, Greenville, S. C., president. **C. A. Gibson,** president of the F. W. Poe Manufacturing Co., was named vice-president and will succeed to the presidency next year.

Grant L. Bush, formerly with the American Woolen Co., is now boss carder of the Cowan Mill of Cotwool Manufacturing Co., Lewiston, Maine.

Robert A. Poussard and **Wilfred Roy,** previously second hands of weaving, have been promoted to overseers of weaving at the Androscoggin Mills Division of Bates Manufacturing Co., Lewiston, Maine.

Thomas Hunter has joined Continental Mills, Lewiston, Maine, in an executive capacity.

Formerly with Peerless Woolen Mills, Rossville, Ga., **Davis L. Davis** is now an executive with the textile division of Thermoid Rubber Co., Trenton, N. J.

J. A. McKay has left Dartmouth Woolen Mills, Claremont, N. H., to become boss dyer at the Kennebec Mills of American Woolen Co.

Robert A. Harper, formerly with Brookfield Mills and Holliston Mills, is now manager of the industrial fabrics division of Columbia Mills, Syracuse, N. Y.

In a realignment program designed to bring the firm's diversified operations under a consolidated management, the stockholders of Alexander Smith & Sons Carpet Co., approved changing the name of the company to Alexander Smith, Inc. **William F. C. Ewing** was made president and chairman of the board of the new

Mr. Ewing
(upper left)
Mr. Hudgins
(upper right)
Mr. Elliott
(right)

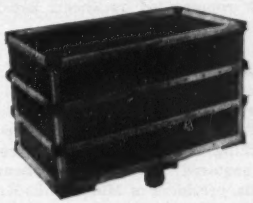
organization, with **Houlder Hudgins** serving as executive vice-president. **James H. Elliott,** formerly with General Bottlers, Inc., was named administrative vice-president and treasurer; **William C. Hammel** becomes a vice-president and general manager of the carpet division. Other vice-presidents are: **Lee Waterman,** linoleum division; **Frank H. Higgins,** new products; **Harold C. Zulauf,** industrial relations; **Maitland L. Griggs,** special services; **John Goodwillie,** advertising and public relations. **Robert P. Ridges** is now vice-president and comptroller, and **William J. Kennedy** is secretary and assistant treasurer.

Harold W. Leitch, general superintendent in charge of research at Pacific Mills, was recently made a member of the advisory committee on water pollution control of the Commonwealth of Massachusetts. Mr.

For long and satisfactory

Service

The Excel No. 1000 Fibre Truck



This is a sturdy truck upon which you can depend for long and satisfactory service.

Compare its specifications with those of any other fibre truck.

- .090 vulcanized fibre, securely riveted to hardwood rails with **solid** steel rivets. These solid rivets are placed at short intervals to prevent buckling.
- Hardwood solid or slatted bottom, sanded to a smooth finish.
- Heavy duty metal top rail.
- Heavy duty metal corners.
- Casters securely **bolted** to bottom.
- Finished in clear lacquer, or painted, for added protection against moisture.

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Mr. Theodore Huston
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EXCEL

Textile Supply Co.

"Excel Trucks Excel"

LINCOLNTON, NORTH CAROLINA

Personal NOTES ABOUT MEN YOU KNOW

Leitch will represent the wool textile industry of the state in the direction of the control program.

S. Vincent Wilking, formerly industrial director for Hathaway Manufacturing Co., and a member of the Harvard Graduate School of Education faculty, has been appointed industrial relations manager for the mills represented by Sheerr Bros. & Co., Inc.

Earl W. Dunmore, president of Utica Knitting Co., and **Russell L. Lawson,** executive vice-president, will become directors of Minneapolis Knitting Works, which were recently acquired by Utica. **Stephenson Wells,** president of Minneapolis Knitting, will become a member of the board of Utica Knitting.

W. W. Lufkin, formerly with Dan River Mills, Inc., has been made a vice-president of Wellington Sears Co. The firm also announced the appointment of **Osbert Hughes** as assistant to Robert Low, head of the textile design and styling department.

Jack Welborn, with Riegel Textile Corp. for the past five years, was recently promoted to an assistant superintendent in the dyeing and finishing plant at Trion, Ga. **D. C. Alexander** was promoted to overseer of the

Mr. Welborn

Mr. Alexander

finishing department. In the Ware Shoals division, **Joe W. Jelks,** formerly with the United States Rubber Co., has been made personnel director.

Noel E. Williams, with the United States Rubber Co.'s Winnsboro, S. C., plant since 1943, has been appointed industrial relations manager of the mill.

Nancy A. Allen, formerly in the design department of Ansonia Mills, East Taunton, Mass., is now an instructor in the design department at New Bedford (Mass.) Textile Institute.

United Merchants & Manufacturers, Inc., has announced the appointment of **Zebulon B. Lane, Jr.,** to manager of its new rayon weaving mill now under construction at Clarkesville, Ga. **Lonnie Long,** of the Bath (S. C.) Mills division, will be master mechanic at Clarkesville. **Daniel A. McCanless,** formerly with Burlington Mills, has been made manager of the United Rayon Mills, Elberton, Ga.; and **Travis J. Martin** was promoted to manager of the United Rayon Mills, Knitting Division, Old Fort, N. C.

W. M. Dutton, previously with the Vamoco plant of Burlington Mills Corp., has been transferred to Newton, N. C., as assistant superintendent of Newton Rayon Mill. He replaces

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TEXTILE APRON COMPANY
EAST POINT, GEORGIA

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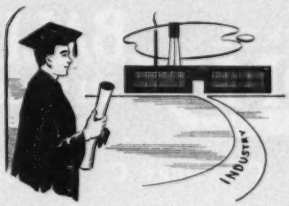
Norman Major, now with the firm's Brighton plant at Shannon, Ga. **John H. Jones,** formerly with Standard-Coosa-Thatcher Co., is now in Burlington's personnel department.

William H. Ruffin, president of the National Association of Manufacturers and Erwin Mills, Inc., was named "Man of the Year for 1951" by the North Carolina State College chapter of Phi Psi, honorary textile fraternity. Mr. Ruffin was lauded for his civic, educational, and industrial accomplishments. The fraternity inducted as honorary members Mr. Ruffin, **J. C. Cowan,** president of the Burlington Mills Corp., and **J. B. Gaither** of the School of Textiles.

After 48 years with the firm, **E. G. Waldeck** has retired from The Spool Cotton Co. In recent years Mr. Waldeck has been head of a section in the Industrial Department.

Lewis F. Shackleford recently joined the staff of the Monroe (Ga.) Cotton Mills as an industrial engineer. He was formerly employed by the Pacolet Manufacturing Co., in the same capacity.



Textile School Graduates Enter Industry

(Continued from page 121)

Conrad Cossette: employed by The Wabasso Cotton Co., Ltd., Three Rivers, Que.

Elzear Dionne: employed by Dionne Spinning Mills Co., Beauce, Que.

Jean Rene Dufour: employed by Dominion Textile Co., Ltd., Montmorency Falls, Que.

Robert Gregoire: employed by Dominion Textile Co., Ltd., Sherbrooke, Que.

Marcel Laferriere: employed by Dominion Textile Co., Ltd., Montreal, Que.

Paul Emile Marquis: employed by Goodyear Cotton Co. of Canada, Ltd., St. Hyacinthe, Que.

Alex McGillivray: employed by Canadian Cottons, Ltd., Cornwall, Ont.

Claude Pelletier: employed by Dominion Textile Co., Ltd., Montmorency Falls, Que.

Watson Peterson, Jr.: employed by Canadian Cottons, Ltd., Marysville, N. B.

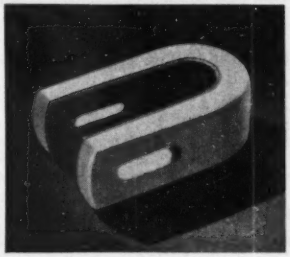
Jean-Paul Favreau: employed by Canadian Celanese, Ltd., Drummondville, Que.

Frank Greenberg: had not decided on employment.

Herve Picard: will attend University of Miami, Florida.

Roger Roux: employed by Cana-

PICK ARM LUG STRAP — Another Fine Rice Dobby Product



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Southern Representatives: R. E. L. HOLT, JR. ASSOCIATES, Jefferson Building, Greensboro, North Carolina

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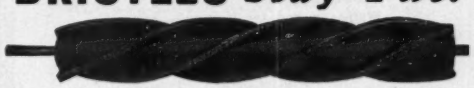

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BETTER FINISH—To prevent lint from collecting on rolls, Gastonia paints them with high-grade bobbin enamel, which dries to a hard, glossy finish.
Brushes can be refilled and returned in two days. Freight is paid one way.
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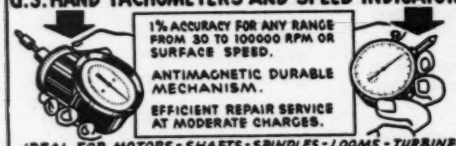

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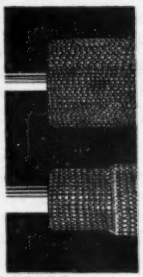
New Seamless Knit Covers for Card Scavenger Rolls

(Patent No. 2,202,813)



Try these new covers on your back or front card rolls. They last three times longer and are ten times easier to strip than ordinary paper or cloth covers. Card hands love them . . . and they are economical too!

Convince yourself. Send one old scavenger roll to be covered. It will be covered and returned to you at no charge so you can see that we have something. You be the judge.

This is not a slip-on cover . . . can be had only by sending in old rolls for covering or orders for new ones to your specifications. We prepay charges one way on old rolls. Also made to your order: Knit Dye Tubing any size . . . and sheepskin or cloth clearers. Give us a trial.

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"The Roving Frame"

by Fay H. Martin

Every carder, frame fixer, section man, and superintendent will find "The Roving Frame," by Fay H. Martin, an instructive pamphlet. Mr. Martin, who has long written articles for "Textile Industries," clearly interprets draft, twist, lay, tension, pressure of the presser, hyperbola curve, the winding of the bobbin, reverse twist on the roving frame, roving frame cones, tensions and compounds so that the student or practical man will profit by his explanation.

This is a reprint of 26 pages 8½ x 11 of a series of articles which were previously published in "Textile Industries," containing valuable information, illustrations, tables, charts and diagrams.

Fay H. Martin was a recognized authority on the roving frame. This book has been adopted by textile schools and vocational schools. May be secured in conjunction with a 3-year subscription to "Textile Industries" for $5.00 (Foreign, $11.00).

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dian Celanese, Ltd., Drummondville, Que.

Jean Brodeur: employed by St. Hyacinthe Textile School, St. Hyacinthe, Que.

Guy Cartier: employed by Paton Manufacturing Co., Ltd., Sherbrooke, Que.

Roger King: employed by Courtaulds (Canada) Ltd., Montreal, Que.

Jean Lys Boutin: employed by St. Hyacinthe Textile School, St. Hyacinthe, Que.

Georges Desnoyers: employed by Pinatel Piece Dye Works, Joliette, Que.

Jean B. Ducharme: employed by Dominion Burlington Mills, Montreal, Que.

Jean-Louis Lacerte: employed by Paton Manufacturing Co., Ltd., Sherbrooke, Que.

Rosaire Lapointe: had not decided on employment.

Roger Pepin: employed by Dominion Textile Co., Ltd., Montmorency Falls, Que.

Gilles Roux: had not decided on employment.

Personal NOTES ABOUT MEN YOU KNOW

Obituaries

C. E. Shepherd, associated with Gulf Oil Corp. for the past forty years and for some time manager of the Atlanta, Ga., division, from which office he retired several years ago, passed away on June 6.

Parker M. Smith, son of Robert P. Smith, one of the founders of Smith, Drum & Co., died suddenly on April 25 at his home in Philadelphia. Mr. Smith had been president of the firm since 1937 and was one of the recognized industrial leaders of Philadelphia.

Ethelbert Harman, secretary-treasurer of Sayles Finishing, Inc., until his retirement in 1946, died at the age of 70 after a long illness.

George Swallow, former president of the National Association of Woolen and Worsted Overseers, was killed April 14 when his motorboat overturned during a fishing trip in the St. Lawrence River.

On May 10 **John H. Lacouture** died at the age of 66. He was chairman of the board of Guerin Mills, Inc., Providence, R. I., and honorary chairman of the Woonsocket Association of Manufacturers.

W. B. Pursifull, 37, purchasing agent for Cranston Print Works Co., died suddenly on April 30 following an attack of coronary thrombosis.

Clarence A. Carrell, 54, Atlanta, Ga., district sales manager of Acme Steel Co., died suddenly on May 5 at his home in Decatur, Ga.

"THERE IS HARDLY ANYTHING IN THE WORLD THAT SOME MAN CANNOT MAKE A LITTLE WORSE AND SELL A LITTLE CHEAPER, AND THE PEOPLE WHO CONSIDER PRICE ONLY ARE THIS MAN'S LAWFUL PREY." (John Ruskin)

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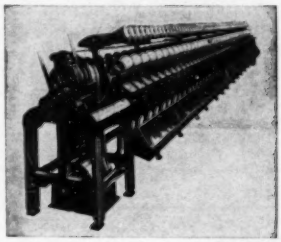

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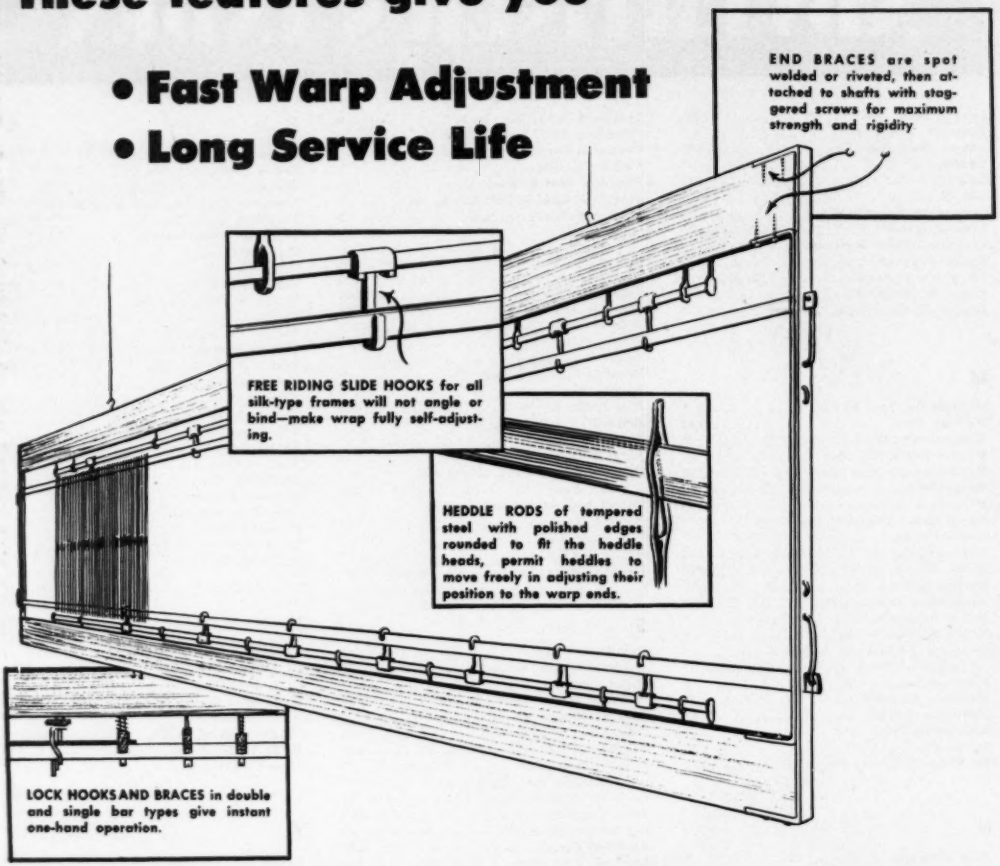
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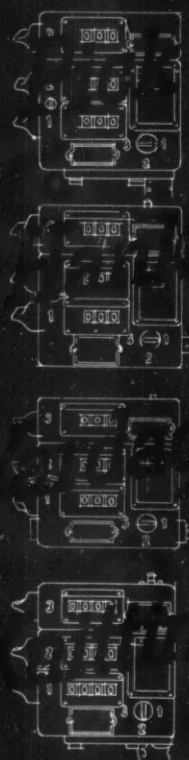

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